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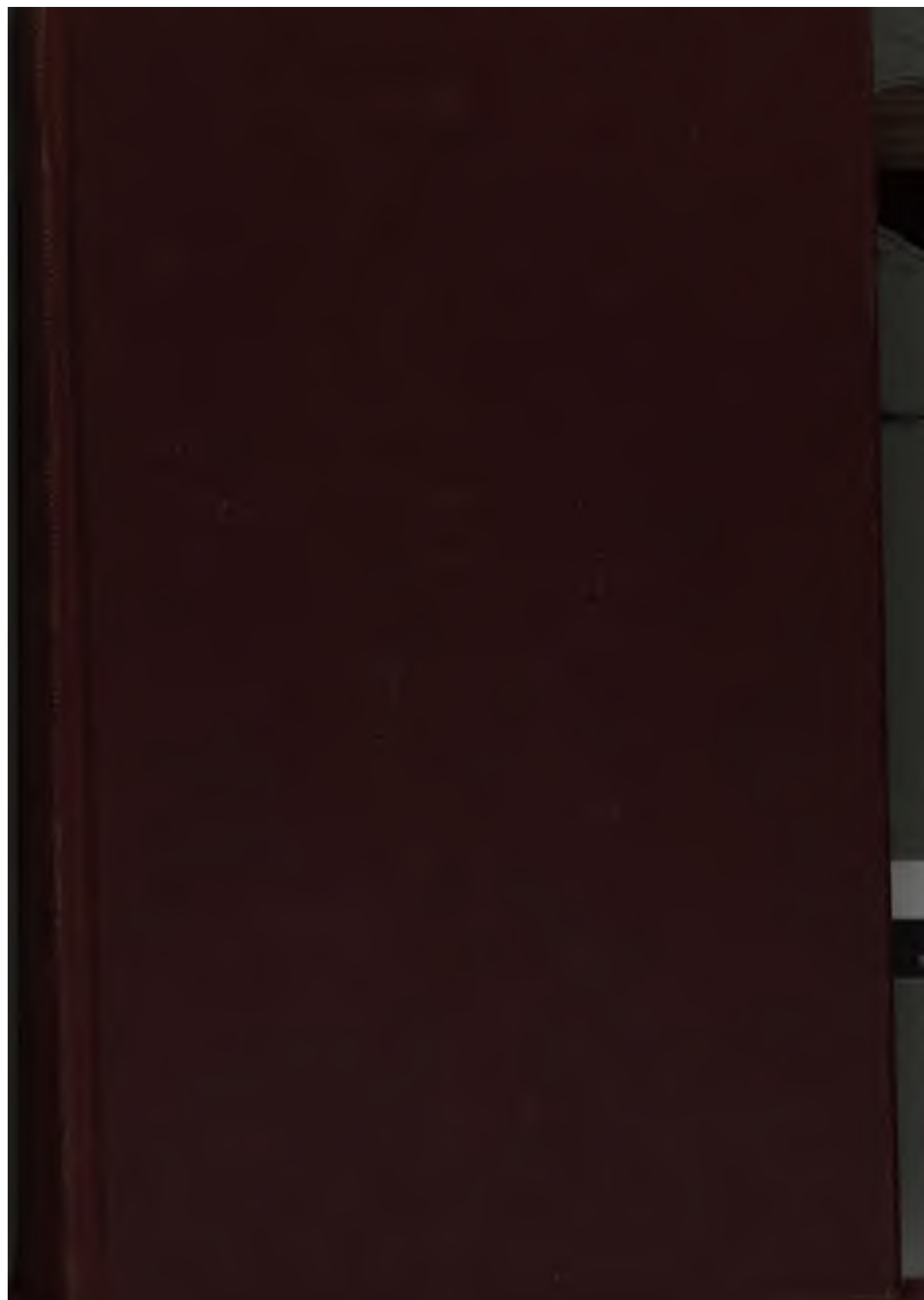
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Astronomy and Natural Philosophy,
1807-1836*

ALEXANDER von HUMBOLDT.

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A. Krause sc.

Alexander von Humboldt
aged 44.
(1804.)

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ANALYSIS OF THE

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ANALYSIS OF THE

©

LIFE

OF

ALEXANDER VON HUMBOLDT.

COMPILED

IN COMMEMORATION OF THE CENTENARY OF HIS BIRTH

BY

Julius
J. LÖWENBERG, ROBERT AVÉ-LALLEMANT, AND ALFRED DOVE.

EDITED BY

(Christian)
PROFESSOR KARL BRUHNS,

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IN TWO VOLUMES.

TRANSLATED FROM THE GERMAN BY

JANE AND CAROLINE LASSELL,

TRANSLATORS OF SCHÜLLER'S 'SPECTRUM ANALYSIS.'

VOLUME II.

WITH TWO PORTRAITS REPRESENTING HUMBOLDT IN HIS
FORTY-FIFTH AND IN HIS EIGHTY-FIRST YEAR.

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III.

ALEXANDER VON HUMBOLDT:

SOJOURN IN PARIS FROM 1808 TO 1826.

BY

ROBERT AVÉ-LALLEMANT.

VOL. II.

CHAPTER I.

PUBLICATION OF THE RESULTS OF THE EXPEDITION TO AMERICA.

Paris under the First Empire—Humboldt in Paris—Pecuniary Embarrassment—Bonpland's Lack of Industry—New Coadjutors—Comprehensive Character of the Work—The Publishers and the Cost of Publication.

BEFORE attempting to follow Humboldt throughout his lengthened sojourn in Paris, whither he was appointed to accompany Prince William of Prussia on a diplomatic mission in 1808, let us take a hasty survey of the condition of France and her capital at that period.

The Emperor Napoleon had brought the greater part of Europe under his sway. Paris had become the metropolis of the civilised world, and a Teuton was almost obliged to confess with bitterness that Paris was at that time the capital of Germany. A royal prince of the House of Prussia appeared at the French court as the envoy extraordinary of his country, while on Napoleon's divorce of Josephine, an Austrian arch-duchess consented to become the bride of the conqueror in the same Paris where her unfortunate aunt had been dragged relentlessly from the throne to the scaffold.

In seeking for an explanation of this state of things, we shall at the outset be compelled to admit that when, amid every imaginary splendour, the Empire rose over the ruins of the Republic, Paris entered immediately upon a marvellous phase of existence. With consummate tact, and not without a certain amount of taste, Napoleon knew how to plunder the nations whom he conquered, and how to select the spoil which he destined for the embellishment of Paris. Libraries and ancient monuments, picture galleries and statues,

distinguished men of learning, eminent artists and celebrated singers—all found their way to the banks of the Seine, and by their presence lent to the classic Lutetia a glory she had never before attained. One magnificent building after another rose at the word of Napoleon, apparently as a tribute to national vanity, but in reality as a glorification of himself; scientific institutions were founded one after the other, and the old-established universities and societies, especially if they stood associated with a bygone royalty, were reconstructed and dignified with the appellation of 'Imperial.' Paris, in short, became the theatre for all that was glorious, grand, and inspiring; and while the emperor was consuming the strength of the nation by the sanguinary wars he was incessantly prosecuting beyond the frontier, the arts of peace were successfully cultivated in the capital.

But while acting the Cæsar away from home, Napoleon was no less anxious to play the Augustus on his return to the Tuileries. The state of an imperial court was established in all its splendour. A crowd of new offices of State were instituted, and a new order of nobility created, upon whom the ancient nobles looked at first with scorn; but as the empire gradually gained in stability, many of the old families appeared again at court: some, indeed, with the object of being reconciled to the new-made Cæsar, of paying him homage and becoming the recipients of his favours; others, again, only to ridicule in secret the manners of the upstart. Yet Napoleon felt flattered when he saw around him at the Tuileries even such members of the ancient noblesse. Much, therefore, that in those days appeared grand and exalted was in reality but a dumb show—a mere stage spectacle—and never was the proverb 'There is but a step from the sublime to the ridiculous' more fully exemplified than at the court of Napoleon I.

At the time when Humboldt arrived in Paris the empire was at the height of its glory. We have already seen that he was no stranger to the French capital, but had freely associated with its scientific circles both before and after his expedition to America. To him, as a man of birth and position, every house and palace in the empire was thrown open; to him, as a distinguished traveller and successful investigator familiarly

acquainted with all that was newest and most interesting in science, every circle in the world's metropolis belonged by right; private circles and learned societies vied with each other in their wish to claim him as their own; even at the Institute, of which he had long been a member, where literature and science found their noblest representatives, he was at once accorded the position of a distinguished and illustrious genius, and eventually regarded as a French conquest to be retained if possible as a permanent and valued possession. Imperial Paris did, in fact, offer to the German investigator every necessary facility for the working out and publication of the results of his transatlantic journey: men of science, of his own standing, to assist him in the arrangement of his valuable materials, artists' studios, and printing establishments, by means of which the work could be brought out with suitable magnificence, and finally, influential reviewers to bring the value of the work before the attention of the scientific world. Nor did the fall of Napoleon seriously disturb these conditions so highly favourable to the completion of an undertaking of this magnitude.

It was not until the greater part of these results had been given to the world—the publication of the remainder being necessarily delayed on account of the enormous sum of money required—that Humboldt, submitting to the expressed wish of his sovereign and cheered by the apparent improvement that opened to him in his prospects at Berlin, came to the resolution of returning to Prussia and taking up his residence in his native city.

Could any one section of Humboldt's long life be regarded as of more importance than another, his lengthened sojourn at Paris may perhaps be viewed as the one of highest significance. We can scarcely furnish our readers with a better introduction to this phase of Humboldt's life than the following letter, addressed by him, in March 1808,¹ to his friend Professor Pictet, then visiting Paris:—

'I am quite grieved to have missed you. It seems as if mis-fortune resembled the plague. Everybody avoids this

¹ 'Le Globe, Journal géogr.' (1808), vol. vii. p. 130.

house ; you are my only visitor. What a pleasure it would have been to me to see you again. You know how inalienably I am bound to you by feelings of gratitude and esteem. I am to read a long paper on Refraction before the Institute to-morrow. It is not yet finished ; and its completion may possibly prevent my coming to see you this evening. Perhaps I shall meet you to-morrow at the Institute. You have just reason for being angry with me : do you love me enough to forgive me ? If you only knew how unhappy I have been ! I pass my time between the École Polytechnique and the Tuileries. I work and sleep at the École, where I consequently spend my nights and mornings. I share the same room with Gay-Lussac. He is my best friend, and I find his society most improving and stimulating, and this stimulus seems to be mutual. I fancy that though I have lost everything, I shall still be able to enjoy independence on forty sous a day. How glad I shall be to see you and our good friend Auguste de Staël.

‘ HUMBOLDT.’

It thus appears that Humboldt had no sooner arrived in Paris than he became immersed in the active prosecution of a variety of schemes. His diplomatic mission took him to the Tuileries, his important position as a man of science necessitated his attendance at the Institute, while his passion for scientific investigation led him to the École Polytechnique. His susceptibility to friendship is evinced in the generous affection and admiration he expresses for Gay-Lussac, his ‘ best friend,’ as he terms him, and in the attachment he displays towards Pictet. Yet in the midst of this noble and intellectual activity he asserts that he is unhappy, that he has lost everything, and that in his misfortune he is deserted by all the world. The name of De Staël brings to mind the assemblage of literary genius then gathered in the French capital, and adds an important feature to the programme of Humboldt’s life in Paris furnished us in the above letter.

Should it be asked why Humboldt and his house were, as he somewhat sarcastically expresses it, avoided like the plague, how it happened that he had lost ‘ everything,’ and why he should express his conviction that he could live upon forty sous a day, an answer will be found in the following interesting

letter, which furnishes a very remarkable commentary on the preceding statements. We learn from it that both the Humboldts had been placed in a position of painful pecuniary embarrassment, and we are led to infer that this political mission to Paris was accepted by Humboldt, not merely in the interests of his country, but to meet the urgent requirements of his own affairs. The letter runs as follows:—

• My Lord,—I have not ventured to wait upon you in person, from a conviction of the multiplicity of affairs which must at this time be engaging your attention. I feel, however, too deep an interest in Saxony, which I regard almost as a second fatherland, since I there received an essential part of my education, not to have heard with extreme pleasure of the fresh mark of confidence which has just been bestowed upon your Excellency by the King. May I beg you to accept my most respectful congratulations?

• I feel it to be a duty—a duty which I discharge with very great pleasure—to present my homage to their Majesties the King and Queen of Saxony. There are reasons, which will be communicated by the Baron de Senft in strictest confidence to the King, why I cannot allow my presentation to take place under the auspices of Herr von Brockhausen. Might I request you, therefore, to procure me the favour of an interview with their Majesties, to whom I had the honour of being presented twelve years ago at Dresden? I could not learn at the Embassy to which of the chamberlains I ought to address myself. May I ask you to do me the extreme favour of appointing a time for my reception; or would it be better to wait for a few days?

• I addressed a communication to His Majesty at the commencement of the war through the medium of Count Lubiesesz. As this letter may possibly have miscarried during the misfortunes of our unhappy country, I have thought it desirable to repeat the expression of my gratitude, and I therefore venture to request your Excellency to present the enclosed letter to the King. It merely contains my congratulations upon the Peace, and the expression in general terms of my sentiments on the subject. I have purposely abstained from any allusion to an audience.

• I am not without hopes that, through the influence of the King's envoy, some alleviation of the dreadful pecuniary em-

barrassment in which my brother and myself are at present involved may be procured. We have the sum of 95,000 Prussian thalers on mortgage in the Grand-Duchy of Warsaw. By the law passed on the 6th of January, 1809, we are interdicted for an indefinite period from the use either of the capital or the interest. Part of the capital is held in my name, and part in that of my brother. By a decree of the 14th of March, 1809, His Majesty exempted a portion of my capital, amounting to 33,000 thalers, on a mortgage at Bodzewie, in the Department of Posen, from the operation of this law; but the war has prevented me from reaping the advantage of this considerate act, and for three years I have received no interest. I appeal to your Excellency whether I might not venture, on the eve of the King's departure from Paris, to present a petition requesting a complete exemption for the entire capital, whether held in my name or in that of my brother? Should this favour be granted, it will be only necessary for me to receive a recommendation from your Excellency to put me again in possession of the interest. As a preparatory step, I have introduced in my letter to His Majesty the expression "that my brother and myself might possibly be compelled once more to solicit his favour." One word from your Excellency to the King will greatly facilitate my wishes. Count Marcolini has always shown me great consideration, but I think he would hardly like to interfere in private affairs. I venture to appeal to your kindness, because I know the generous sentiments with which you have invariably honoured me. This unfortunate sequestration of my property is the greatest hindrance I have to the publication of my works.

'May I beg you to receive the assurances of the profound respect with which I subscribe myself your devoted servant,

'HUMBOLDT.

'Paris: Rue de la Vieille Estrapade, No. 11.

'November 10th, 1809.'

This letter¹ is probably addressed to Baron von Forell,

¹ This letter is preserved in the Royal Archives at Dresden. The list of personages accompanying King Frederick Augustus to Paris was obtained from the office of the court marshal.—EDITOR.

who, in the suite of King Frederick Augustus I. of Saxony, was in Paris during the months of November and December, 1809—the same nobleman, doubtless, who held the post of ambassador from Saxony at the court of Madrid, when Humboldt sought permission from the Spanish monarch to prosecute his travels.

At the final partition of Poland in 1795, Warsaw, as is well known, was ceded to Prussia. At the Peace of Tilsit it was converted into a dukedom by Napoleon, and bestowed upon the King of Saxony. At the convention of September, 1808, negotiated at Paris by Prince William, all claims of private individuals upon the dukedom of Warsaw were renounced by Prussia, in consideration of an exemption from a war tax of forty millions of francs. At the secret convention of Bayonne in the previous May, France had, however, withdrawn all claims upon the duchy, whether then acknowledged or hereafter to be discovered, exacting in return from the King of Saxony as Duke of Warsaw the sum of twenty million francs, to be paid in three years, and the renunciation of all claims upon France for war supplies and hospital expenses. A specification of the property that was to be sequestered to meet this demand was drawn out at Berlin by Daru, the French General-Intendant, and the act of sequestration was committed to the Council of State at Warsaw, with whom the chief object was to reimburse the duchy as quickly as possible for this sum of twenty millions—an undertaking which was likely to be facilitated by the hatred of the Poles to the Prussians. In carrying out the sequestration, the French specification was adhered to, by which, to the great and just annoyance of the Prussians, the property ascribed to the Prussian Government was made to include not only all bank and commercial investments, the funds for the benefit of widows, the property belonging to the great orphan houses, churches, schools, and charitable institutions, but even the property of several private individuals, of whom it could only be proved that they had been depositors in the Bank of Berlin. All private property, therefore, of this nature was confiscated, as it was concluded that the greatest part of the capital invested in the Bank, and in commercial undertakings in Southern Prussia—Warsaw and its

dependencies—was, in fact, Government property. The money and estates thus laid claim to were estimated at seventeen million thalers.

The King of Saxony acted the part of a compassionate and considerate mediator ; the claims of private individuals received attention as soon as their ownership was proved. Meanwhile the Prussian Government refused to allow the publication of the papers containing the demands of the Bayonne convention, and issued letters patent requiring that its claims upon Poland should be paid into the Bank of Berlin, and not to the Exchequer at Warsaw, against which prohibitory measures were enacted by the new duchy in the decree of January 6, 1809. This led to negotiations which resulted in the abrogation, by mutual consent, on September 10, 1810, of the act of sequestration.

Under such circumstances it is highly probable that the property held by the Humboldts in those provinces suffered sequestration. Be this as it may, it is certain that Alexander von Humboldt, during the first part of his sojourn in Paris, was in pecuniary embarrassment, by which he was hampered in the publication of his works, and other scientific undertakings.

These difficulties had, however, no effect in diminishing his industry ; obstacles seemed only to nerve his energy, and strengthen his capacity for work. Soon after writing the letter above quoted to Pictet, in which, as we have seen, he alludes to his pecuniary difficulties in a semi-humorous strain, he addressed him again in a jubilant tone of scientific enthusiasm :—‘ I am living entirely among “ soda ” and “ potash ”—between Thénard and Gay-Lussac. “ Ammonia,” M. Berthollet, comes to see us occasionally ; and then we all think ourselves to be hydrogenated. Gay-Lussac commissions me to send you his respects. We continue to live in a very fraternal manner, in what you call our flying camp at Paris. . . . École Polytechnique, Montagne Sainte-Geneviève, 26 May, 1808.’¹

During this year he was gratified by the favourable recep-

¹ ‘ *Le Globe*, ’ &c. (1868), vol. vii. p. 193.

tion given to a French edition of the 'Aspects of Nature,' a work in which he ever took a peculiar interest, and which in this form enjoyed a wide circulation. In a frank and straightforward manner, he requested Malte-Brun, the well-known geographer, to announce the publication of the work, and review it in the 'Journal des Débats,' begging him at the same time to bring his other works, 'Statistics of Mexico' and the 'Astronomical Observations,' before the notice of the public.

There was nothing, however, which lay so near his heart at this time as the completion of his American works, the more so as the project of an important expedition into Asia was seriously engaging his attention, and could not be carried into execution until the results of his American travels had been given to the world. The botanical department caused him the greatest anxiety. Bonpland, who had been so indefatigable on the journey, and had proved himself unrivalled as a collector and preserver of botanical specimens, seemed totally unfit for close application in-doors, and required to be continually admonished and urged to the work. In September, 1810,¹ Humboldt thus wrote to him at Malmaison:—

• You do not send me a line on the subject of botany. I beg and beseech of you to persevere until the work is completed, for since the departure of Madame Gauvin I have received only half a page of manuscript. I am quite determined that the results of our expedition shall not be lost, and if in the space of eight months it is not possible to produce more than ten plates, which is only what any botanist in Europe would prepare in a fortnight, there is no reason to expect the completion of the second volume of the "*Plantes équinoxiales*" under three years; M. . . . declares that he will not begin the printing of the "*Species*" until this second volume is finished; I therefore again beseech you, my dear Bonpland, to persevere in this undertaking to the end: it is an object of the highest importance, not only in the interests of science, but for the sake of your own reputation and the fulfilment of those engagements into which you entered with me in 1798. Do pray send us some manuscript, for all the assu-

¹ De la Roquette, vol. ii. p. 42.

rances that it is ready prepared at home do not help us in the least. I am bound to reiterate these appeals, because I have just paid Willdenow 3,000 francs in advance for the "Species," and because the public, being under the impression that you have for the last two years completely lost all interest in science, will not be anxious for a new work on botany before the first is completed. Herr Willdenow is, I presume, already on his way here; I do not understand why he had the money remitted to him at Berlin. I hope, my dear Bonpland, that we shall soon see you here. I embrace you affectionately, and in the course of a month I shall know whether you still love me sufficiently to gratify my wishes. Gay sends remembrances.

‘HUMBOLDT.’

This letter affords a characteristic picture of the two friends, not only in the relationships they sustained to each other, but also in their mutual connection with science. It may be remarked in passing, that Humboldt's pecuniary difficulties appear to have been removed, probably in consequence of his letter to Forell, since it would have been impossible for him otherwise to have paid without hesitation so large a sum as 3,000 francs towards the publication of a botanical work.

The dilatoriness exhibited by Bonpland in these labours, which seems to have exerted no disturbing influence on the friendship felt towards him by Humboldt, may perhaps be best explained by the supposition that he scarcely felt equal to the task of describing such a collection of botanical treasures, and that his knowledge of botany was not sufficiently extensive to enable him to fulfil in a satisfactory manner the demands made upon him by such an undertaking. In every possible way Humboldt sought the advancement of his friend. Thus in a letter to M. Martin, one of the editors of the 'Journal des Débats,' he writes on November 19, 1814:¹—. . . 'I have two requests to make to you. One is to bring into notice my friend and travelling-companion, M. Bonpland, and the other to state that three-fourths of the works announced upon

¹ De la Roquette, vol. i. p. 202.

my return are already published, and are now complete. They are as follows:—

- ‘ 1. “La Géographie des Plantes.”
- ‘ 2. “Essai politique sur le Royaume de la Nouvelle-Espagne.”
- ‘ 3. “Recueil d’Observations astronomiques et Nivellement des Cordillères.”
- ‘ 4. “Observations de Zoologie et d’Anatomie comparée.”
- ‘ 5. “Plantes équinoxiales.”
- ‘ 6. “Monographie des Mélastomes.”
- ‘ 7. “Monuments des Peuples indigènes de l’Amérique.”

‘ These seven distinct works form, apart from the first volume of the personal narrative, six quarto and five folio volumes. It is of essential importance in the sale of the work that the public should know which portions are complete. All that remains now to be published are the three volumes of the “Personal Narrative,” the concluding part of the “Zoology,” and the “Melastomæ.” ’

Though Bonpland continued after this to render some effective service in the prosecution of these undertakings, yet in the publication of the chief botanical work—‘*Nova genera et species plantarum, quas in peregrinatione ad plagam æquinoctialem orbis novi collegerunt, descripserunt, partim adumbraverunt Am. Bonpland et Al. de Humboldt*’—Humboldt had no reason to regret the return of his former travelling-companion to South America, since he was enabled to secure in his stead the assistance of the distinguished botanist, Karl Sigismund Kunth. Humboldt’s first effort towards obtaining extraneous assistance was in the invitation he addressed to Willdenow, who laboured for several months in Paris upon the herbarium collected by the two travellers, consisting of above 5,000 specimens of plants found in the tropical regions of America. From the short period that Willdenow was able to devote to these labours, owing to his speedy return to Berlin, he could not have left any marked impress upon the work, especially as the bias of his mind led him to pay more attention to the accurate determination of species than to the comprehensive idea of the universal relationships existing between various distinct genera. Kunth,

the well-known botanist, a pupil of Willdenow, and a nephew of the valued friend and tutor of the two Humboldts, possessed, on the contrary, the eager and susceptible temperament of youth, combined with more liberal views on the subject of organic development. In 1813 he was summoned by Humboldt to Paris, where he was actively engaged for several years in the prosecution of the great work. Humboldt did him no more than justice in the following flattering letter of introduction to Pictet, bearing date July 11, 1819 :—

‘ You are no doubt familiar, my dear friend, with the name of the young professor who is the bearer of these lines, in which I would assure you of my affectionate attachment and unfailing regard. Herr Kunth, a corresponding member of the Institute, is my active coadjutor. He is at present engaged on the publication of the ‘*Nova Genera et Species*,’ to appear in five folio volumes, of which three are complete. He is the intimate friend of Delessert and his family, and is well acquainted with M. Decandolle. I have frequently heard from Messrs. de Jussieu, Richard and Robert Brown, that Herr Kunth had raised himself at a very early age to the rank of one of the first botanists in Europe. In addition to his scientific attainments, he is distinguished by his affability, modesty, and gentlemanly bearing. He intends to spend some weeks in making a tour among the mountains in your neighbourhood, not so much in search of new specimens as to observe in their native soil the growth of Alpine plants, which I think will be of essential use to him before visiting with me the mountains of Ararat, Persia, and India. My young friend will esteem it a great privilege to receive any advice on this subject from one who is a master in the art of observing the phenomena of nature in the regions of the Alps.’ . . .

It is evident from this that Humboldt, with whom an extensive expedition to Asia was ever a cherished scheme during his prolonged sojourn in Paris, had early formed the intention of taking his young friend Kunth with him in the capacity of botanist.

The astronomical portion of the work was almost entirely committed to Oltmanns, who proved himself an indefatigable and conscientious coadjutor; while in zoology the valuable

assistance was secured of Latreille, Cuvier, and Valenciennes. In 1804 Humboldt had expressed the hope that not more than two or three years would be required for the arrangement and publication of the results of his American journey; as therefore, after a lapse of ten and even twenty years, the whole was not fully accomplished, it is impossible to avoid the conclusion that besides the many hindrances to publication arising from external circumstances, the work must have been originally planned upon too gigantic a scale. Its elaboration demanded the employment of powers of the highest order, the technicalities of the publication needed the most skilful hands, and the greatest circumspection was called for by the booksellers in effecting the sale. Humboldt scrupulously attended to the management of every detail. Men of science willingly became his coadjutors, and received in return liberal compensation. Skilled artists were called into requisition, but at the cost of a considerable outlay. From the booksellers he exacted large sums, for which—in view of the great pecuniary sacrifices involved by the journey—he is certainly not to be censured. The booksellers, in consequence, expected to realise large profits, and sought eagerly for purchasers. To promote the sale the agency of the press was brought into operation, and the services of competent writers secured for introducing the works favourably to the notice of the public. In soliciting reviews Humboldt displayed considerable tact, and always adopted a noble and straightforward course when endeavouring to interest others in his cause. He was never anxious for indiscriminate or pre-concerted praise, but only for a just criticism; yet, distinguished as he ever was for modesty, he always cherished a grateful remembrance of every gratifying appreciation of his work. Un deserved blame, on the contrary, excited in him considerable irritation, especially when emanating from critics vastly his inferiors in knowledge. To men like Pictet, Martin, Malte-Brun, and others, who, while distinguished for their scientific attainments, and enjoying the command of several important organs of the press, generously undertook an unreserved criticism of his works, in which their merits were frankly recognised, Humboldt never failed to express with courtesy his grateful thanks; but as little could he conceal his displeasure when

unfavourable criticisms, written in no spirit of intelligent comprehension, from time to time made their appearance, though such reviews, proceeding mostly from England, were invariably traceable to men of no standing, or to disappointed and ill-disposed people in trade.

It must, perhaps, be admitted that Humboldt's American works failed to secure from the public the reception they deserved. In the first place, they were published at too high a cost, and are still too expensive to allow of their purchase by scientific men, and even in libraries of note are rarely found in a complete form. To seek them all out is for most a laborious undertaking. However valuable the works of an author may be, if they be so costly that their price when complete is to be reckoned by hundreds of pounds, but few among the votaries of science can afford to be purchasers—but few libraries even can indulge in their possession.¹ It has been admitted, moreover, by competent judges that the plates, to which is mainly due the enormous cost of the work, are unworthy of the artistic powers even of those days; while every experienced traveller acknowledges the unsatisfactory character of many of the illustrations in the celebrated '*Vues des Cordillères*.'

Humboldt's remarkable industry while at Paris may be inferred from the wide compass of his work on America, which gradually extended so far beyond the original plan as to fill twenty-nine volumes both folio and quarto, illustrated by 1,425 maps and plates, many of which are coloured. The work in its complete form is entitled, '*Voyage aux Régions équinoxiales du Nouveau Continent, fait dans les années 1799 à*

¹ In the seventh volume of Humboldt's *Journal* stands the entry:—'The price of a bound copy of my works on America, complete, is 2,753 Prussian thalers. It consists of twenty folio and ten quarto volumes. The price unbound is 9,574 francs = 2,553 Prussian thalers [about 400*l.*]. The botanical part alone consists of

Nova Genera, etc.	. . .	7 volumes, price 5,500 francs.
Plantes équin. etc.	. . .	2 " " 250 "
Mélastomes, etc.	. . .	2 " " 500 "
Mimosées, etc.	. . .	1 volume " 400 "
Graminées, etc.	. . .	2 volumes " 528 "
	14 " =	7,178 " ,'

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1804, par A. de Humboldt et A. Bonpland,' and is composed of six parts, each complete in itself, which were published without reference to the order in which they are numbered.

The first part, '*Voyage aux Régions équinoxiales du Nouveau Continent*,' written entirely by Humboldt, contains:—1. '*Relation historique*,' which was intended to occupy four volumes, of which three only appeared, and were published in quarto, between the years 1814 and 1819; the description of the journey is carried up to April 1801, the period when the travellers had reached Peru. 2. '*Vues des Cordillères et Monuments des Peuples indigènes de l'Amérique*, Atlas pittoresque du Voyage' (1810, one volume in folio, with 60 plates). 3. '*Atlas géographique et physique du Nouveau Continent*' (1814–1819, 39 maps in folio). 4. '*Examen critique de l'Histoire de la Géographie du Nouveau Continent et des Progrès de l'Astronomie nautique aux XV^e et XVI^e siècles*' (1814–1834, five volumes in folio).

The second part contains:—'*Recueil d'Observations de Zoologie et d'Anatomie comparée, faites dans l'Océan Atlantique, dans l'Intérieur du Nouveau Continent et dans la Mer du Sud pendant les années 1799–1804*' (Paris, 1805–1832, two volumes quarto). In this section Humboldt had the valued co-operation of Cuvier, while Latreille assisted him in the description of the insects, and Valenciennes lent his aid in the classification of the fish and shells. Some treatises on reptiles were the joint work of Humboldt and Bonpland.

The third part, written entirely by Humboldt, consists of the '*Essai politique sur le Royaume de la Nouvelle-Espagne. Ouvrage qui présente des recherches sur la géographie du Mexique, sur l'étendue de la surface et sa division politique en intendances, sur l'aspect physique du sol, sur la population actuelle, l'état d'agriculture, de l'industrie manufacturière et du commerce; sur les canaux qui pourraient réunir la Mer des Antilles au grand Océan; sur les revenus de la couronne, la quantité des métaux qui a reflué du Mexique en Europe et en Asie depuis la découverte du Nouveau Continent, et sur la défense militaire de la Nouvelle-Espagne*' (two volumes with Atlas, Paris, 1811, quarto; one volume with twenty-nine

maps, Paris, 1812, in folio, and five volumes of letter-press, Paris, 1811, 8vo.).

The fourth part is 'Recueil d'Observations astronomiques, d'Opérations trigonométriques et de Mesures barométriques, faites pendant le cours d'un voyage aux Régions équinoxiales du Nouveau Continent depuis 1799 jusqu'à 1804, rédigées et calculées d'après les tables plus exactes par Jabbo Oltmanns. Ouvrage auquel on a joint des Recherches historiques sur la position de plusieurs points importants pour les navigateurs et pour les géographes' (two volumes, Paris, 1808 and 1810, in quarto). A German edition¹ was also printed in Paris in two octavo volumes in 1810, for which Humboldt wrote an introduction of eighteen pages, and dedicated the work 'to those estimable men, Franz, Baron von Zach, Comptroller to the Duke of Saxe-Gotha, and Herr Friedrich Gauss, Royal Professor at Göttingen.' All the calculations and results therein given are the work of Oltmanns, by whom they were reduced from Humboldt's observations.

The fifth part, of which Humboldt is again the sole author, contains:—'Physique générale et Géologie; essai sur la géographie des plantes, accompagné d'un tableau physique des régions équinoxiales, fondé sur des mesures exécutées depuis le dixième degré de latitude boréale jusqu'au dixième degré de latitude australe, pendant les années 1799-1803' (one volume, Paris, quarto).

The sixth part is:—1. 'Plantes équinoxiales, recueillies au Mexique, dans l'île de Cuba, dans les provinces de Caracas, de Cumana et de Barcelone, aux Andes de la Nouvelle-Grenade, de Quito et du Pérou et sur les bords du Rio Negro, de l'Orénoque et de la rivière des Amazones' (two volumes, with 146 engravings, Paris, 1809-1818, large folio). 2. 'Mono-

¹ In the year 1850, Humboldt wrote in his own copy:—'This abridged edition is very scarce, since in consequence of some speculative transactions undertaken during the reign of Napoleon, whereby English goods were to be brought into France in exchange for an equal value of French books, the whole stock of this German edition of my astronomical observations was thrown into the sea by order of the trade, in order to escape the duty on books. A few copies only were saved.

'A. VON HUMBOLDT.

'Potsdam: 4 December, 1850.

'A memento of the barbarism of booksellers!'

graphie des Mélastomes et d'autres genres du même ordre' (two volumes, with 120 coloured plates, Paris, 1806-1823, large folio). 3. *Nova genera et species plantarum, quas in peregrinatione ad plagam æquinoctialem orbis novi collegerunt, descripserunt, partim adumbraverunt A. Bonpland et A. de Humboldt, in ordinem digessit C. S. Kunth*' (seven volumes with 700 engravings, Paris, 1815-1825, in folio; also in four octavo volumes in the form of an abstract or synoptic summary).

4. '*Monographie des Mimosées et autres Plantes légumineuses du Nouveau Continent, rédigée par C. S. Kunth*' (with sixty coloured engravings, Paris, 1819-1824, large folio). 5. '*Révision des Graminées publiées dans les Nova genera et species plantarum de MM. Humboldt et Bonpland, précédée d'un travail sur cette famille par C. S. Kunth*' (with 220 coloured engravings, Paris, 1829-1834, large folio). 6. '*Synopsis plantarum, quas in itinere ad plagam æquinoctialem orbis novi collegerunt A. de Humboldt et A. Bonpland, auctore C. S. Kunth*' (four volumes, Strasburg and Paris, 1822-1826, 8vo.). In the editorship of the sixth part, Humboldt availed himself of the co-operation of Bonpland and Kunth. The first two works are edited by Bonpland, and the remainder by Kunth, and the only production among them from Humboldt's pen is an introduction to the '*Nova genera*,' which was published in a separate form, under the title '*De distributione geographica plantarum secundum cœli temperiem et altitudinem montium prolegomena*' (Paris, 1817, published in German by Beilschmidt, Breslau, 1831).

In the midst of these arduous undertakings, Humboldt yet found time to bring out several treatises on subjects kindred to the larger works, some of which appeared in various periodicals, while others were published in a separate form.

Humboldt's publishers in Paris were, at one time, the firm of Schöll, Gide, Dufour & Maze, at another time Gide alone, then Fuchs, subsequently Gide fils, Gide & Baudry, and Levraut; in one letter the name of Smith occurs in this connection. In Germany his principal publisher was Cotta. There are many allusions in Humboldt's letters to Gide, Schöll, and Cotta, which show that his relationships with them were of

a friendly character: he often mentions them with praise, but does not hesitate to censure, when he thinks blame is due.

In one of his letters¹ (1818) he mentions that Schöll had three volumes in hand, and that it needed some courage in a publisher to venture upon the completion of a botanical work, the first two issues of which had cost 180,000 francs. The expense of engraving and printing the copper-plate illustrations was truly enormous: in a letter to Böckh, Humboldt remarks that the cost of the engravings for the French work amounted to 600,000 francs. In Ideler's translation of the '*Examen critique*' it is stated that the completion of the publication of Humboldt's great work on America was entirely due to the generosity of the public; the copper-plate illustrations, occupying 1,300 folio leaves, cost in printing and paper alone 840,000 francs—a fact which easily explains the high price of these works, nearly double that of the '*Description de l'Égypte*,' towards the publication of which the French Government advanced the sum of three million francs.²

It is therefore readily conceivable that Humboldt felt obliged to contribute from his private resources towards the cost of publication, if only indirectly by the payment of his coadjutors, and that in consequence of this outlay his fortune became considerably impaired. In this way was soon expended not merely his private income and pension, but also the sums he received from Cotta for his literary productions—particulars of which occur in such entries in his journal as the following:—
'Received from Cotta 5,000 francs;'
'For German manuscripts 400 thalers, 600 thalers, 204 thalers' (August 12, 1806), and again: '1,419 francs paid by Cotta to Duttenhofer.'

In consequence of a representation made in person by Humboldt to Von Bülow, Prussian Minister of Finance, who happened to be at that time visiting Paris, he received in 1815 an advance of 24,000 francs. Of the manner in which this royal loan was expended, he renders an account in an interesting letter addressed to the minister Von Altenstein; he made an arrangement with the Government that the publishers were to be allowed to repay the money, by means of copies of the

¹ De la Roquette, vol. i. p. 210.

² '*Kritische Untersuchungen*' (Berlin, 1852), p. 22.

works. He was invariably anxious to lighten the cost to the publishers as much as possible, and for this purpose he on one occasion voluntarily renounced a counter-claim of 48,000 francs.

By a royal order in council of August 16, 1820, it was agreed to accept as an equivalent for the loan advanced to Humboldt, four magnificent copies of his works, which were presented by the king to the Universities of Berlin, Breslau, Halle, and Bonn.

CHAPTER II.

FRIENDS AND COADJUTORS AT PARIS.

Humboldt's Coadjutors: Bonpland, Willdenow, Oltmanns, Kunth, Latreille, G. Cuvier, and Valenciennes—Humboldt's Friends: Deluc, Jacquin, Ingenhousz, Lalande, Delambre, Laplace, Pictet, Arago, Biot, La Métherie, Gay-Lussac, Thénard, Berthollet, Fourcroy, Vauquelin, Lamarck, Fr. Cuvier, Duméril, Étienne and Isidor-Geoffroy Saint-Hilaire, Milne-Edwards, Antoine-Laurent Jussieu, Decandolle, René Just. Haüy, Brongniart, Cordier, DeFrance, Élie de Beaumont, Guizot, Gérard.

IN enumerating the friends with whom Humboldt was most intimately associated during his sojourn at Paris, we shall first direct attention to those from whom he derived assistance in the publication of his great works.

Aimé Bonpland. A biographical sketch of Humboldt's fellow-traveller has already been given in the Appendix to the first volume of this work.

Willdenow came to Paris only for a short time while assisting in the botanical department of the work. His assistance seems to have been confined principally to the classification of the plants collected in South America; in consequence of his premature death, some of the plates he had prepared were withdrawn from publication.

Jabbo Oltmanns, born at Wittmund, East Friesland, on May 18, 1783, came to reside at Berlin in 1805, and devoted himself exclusively to geographical and astronomical calculations. He was at first commissioned by Humboldt with the reduction of single sets of observations, and was afterwards induced to remove to Paris, where he was occupied till 1811 in editing the 'Recueil d'Observations.' During this period he also contributed various mathematical papers upon geographical subjects to Zach's 'Monatliche Correspondenz' and Bode's 'Jahrbücher.'

While still in Paris, he was nominated in 1810 Professor of Theoretical Astronomy in the proposed University of Berlin, and elected a member of the Academy of Sciences; in 1824 he received the appointment of Professor ordinarius. His death took place on November 27, 1833. Many references to the relationship maintained between him and Humboldt occur not only in his own writings, but in numerous entries in Humboldt's notebooks. In his preface to the second volume of the 'Recueil d'Observations,' dated July 1810, he remarks:—'In concluding this volume I wish to express the most heartfelt gratitude towards my noble patron for the opportunity that has been afforded me of bringing into notice my geographical investigations through his observations of equatorial stars conducted during laborious night-watches on the summits of the Andes, and on the peaceful shores of the Orinoco and the Magdalena. To these investigations I am indebted for some of my happiest hours; through them I became fascinated by a science which bears within itself an ever-renewed charm. Although I may never perhaps have the opportunity of prosecuting these investigations, I shall ever retain the pleasurable feelings they have excited.' In the Preface to the 'Examen critique,' written in November 1833, Humboldt pens the following passage to his memory:—'The pleasure I have felt at the restored freedom of my friend and fellow-traveller, Aimé Bonpland—an event which, amid much anxiety, I have so ardently anticipated—has been sadly overclouded by a severe loss. A few days ago, after a long and severe illness, died my friend and coadjutor, Jabbo Oltmanns, member of the Academy of Berlin, who furnished a valuable proof of his friendship in the reduction of the astronomical observations I made when on the continent of South America. . . . A few days before his death Oltmanns had completed the reduction of the observations made by me in Siberia, only a small portion of which I had been able to reduce during my rapid and arduous journey. This memorial of my unalterable gratitude will not be out of place in a work devoted to a series of investigations connected with the history of geography.'

Pierre-André Latreille, born in 1762, died at Paris in 1833, was from earliest youth a zealous student of zoology, and

his labours have greatly contributed towards a more accurate knowledge of Crustacea.

Georges Cuvier, whose name stands unrivalled among zoologists, was born at Montbéliard in 1769. While at the celebrated Academia Carolina, at Stuttgart, he forsook his original intention of studying law, and devoted himself to the pursuit of natural history, in which he soon achieved brilliant results. For some years he filled the post of tutor in a noble family in Normandy, and in 1795 was called to Paris on his appointment as Professor in the Collège de France, where in 1798 he was chosen Professor of Comparative Anatomy. He died at the age of sixty-three, and science in its various branches of zoology, comparative anatomy, physiology, and physics, has never gained so much from the labours of any one man as from those of Baron Cuvier. The following sketch has been written of him by Professor Gans of Berlin: '—He was possessed of a tone of mind eminently German, and a range of knowledge that was truly marvellous in its comprehensiveness. His great penetration and vast powers of observation were unaccompanied by that impulsiveness characteristic of the French mind, which from its contracted nature sees only one side of a subject, to the exclusion of every other. In political life, therefore, where this natural impulse and quickness of apprehension are pre-eminently requisite, Cuvier, much as he might have desired it, could never have hoped to excel. His qualities were more those of an administrator than a statesman: his extensive knowledge rendered him indispensable in the council chamber, where he was often able to show the fallacy of an apparently incontrovertible statement, by adducing facts which would otherwise have been overlooked. His extensive acquirements enabled him to render valuable assistance to the Government under every administration, equally under that of M. de Villèle as under Louis Philippe; for notwithstanding his inaptitude for political life, his vast stores of knowledge seemed to render him indispensable to the service of the State.'

Achilles Valenciennes, a young man of remarkable attainments in zoology, occupied a position of yet closer intimacy

¹ Gans, 'Rückblicke auf Personen und Zustände' (Berlin 1836), p. 18.

with Humboldt. Born in Paris in the year 1794, he was the author—before attaining his twenty-fifth year—of several treatises on zoological subjects, and had written the Introduction to Humboldt's '*Observations de Zoologie*,' through which was laid the foundation of the cordial friendship existing between them. To him, in conjunction with Cuvier, was entrusted the editorship of the '*Histoire des Poissons*,' a task he accomplished in a manner so able as to add greatly to his renown. In after years Humboldt showed marked interest in his fortunes, and in the tone of an old bachelor who sees a young friend burdened with a large family, he alludes to him on one occasion as one '*qui a eu l'imprudent courage de se marier*.' On this account he sought to procure for him some remunerative employment, and furnished his friend with the following recommendation to Guizot, in a letter of considerable political interest, dated Berlin, February 11, 1840.¹ After a masterly introduction, in which he expatiates with grief and foreboding upon the restless disquiet agitating European politics, Humboldt proceeds to mention his '*anxiety concerning the position of my friend and fellow-labourer, M. Valenciennes, the favourite pupil of Cuvier, and one who well deserves that distinction*. I am aware that M. Valenciennes, who has been my coadjutor for the last twenty years in the publication of my works, has already the honour of your acquaintance. He is distinguished as much by the extent and variety of his knowledge as by the delicacy of his feelings; he is, moreover, an excellent classic, and has studied the fine arts under the instruction of his uncle, the well-known landscape painter. He is known and appreciated in Germany; he was with me at the Congress of Aix-la-Chapelle, and on several occasions at Berlin, where he was honoured by marks of distinction from the present king. Now my friend M. Valenciennes—as not unfrequently happens with men of scientific celebrity, even in your magnificent France—is in a position of some pecuniary embarrassment. His family consists of three children, and he has sisters and other relatives almost wholly dependent upon him, in addition to which one or other of his household are

¹ De la Roquette, vol. ii. p. 186.

almost constantly laid aside by illness. His work on Fish, of which the sixteenth volume is about to appear, yields him more fame than emolument. Pray find him, if you can, some employment more lucrative than the post he occupies at the Jardin des Plantes. M. Villemain is willing to serve me, and he knows the friendship I entertain for M. Valenciennes. He is also aware of the efforts I made to obtain the election of M. Valenciennes to the Institute, even at the risk of incurring the displeasure of the "Journal des Débats" and exciting the wrath of the Grand Précepteur de l'Institut, who is accustomed to criticise and censure us through the columns of that newspaper. I shall esteem it a favour if you can give this case your consideration. 'It will not be the first time that you have placed me under deep obligation.' It is undoubtedly to be ascribed to Humboldt's influence that Valenciennes received the appointment of Professor of Anatomy at Paris, and it was through Humboldt's personal intercession that on the death of the venerable Geoffroy de Saint-Hilaire, in 1845, he was elected to succeed him at the Academy.

Karl Sigismund Kunth is, unquestionably, of all Humboldt's coadjutors, the one who, next to Bonpland, rendered him the most important assistance in his works. He was a nephew of Kunth, the highly esteemed tutor of the brothers Humboldt, and was born in Leipzig on June 18, 1788. He spent from 1800 to 1804 at the free school, and was afterwards for a short time at the Thomasschule (Gymnasium), which, in consequence of the death of his father, he was obliged to leave in 1805. In the following year he obtained, through his uncle, an appointment as Assistant Commercial Registrar at Berlin, where, through the generous patronage of Humboldt, he was enabled to attend the University. On the death of Willdenow he undertook the arrangement of the herbariums collected by Humboldt and Bonpland, for which purpose he was summoned by Humboldt, in 1813, to Paris, where, besides publishing various comprehensive works on botany, he was actively engaged till the year 1819 on the 'Nova Genera.' The journey referred to in the letter of introduction to Pictet (page 14) was never accomplished. On his return to Berlin, Kunth was nominated Professor of Botany

and Sub-Director of the Botanic Gardens, and in 1829 was elected a member of the Academy of Sciences. He continued to reside at the capital, where he was held in great esteem as a lecturer and industrious writer till his death, March 22, 1850. In the 'Staatsanzeiger' of May 9, 1851, Humboldt refers to his departed friend in the following terms:—'The memory of my friend will long be cherished, not merely by those able to estimate his brilliant services to science, and the valuable influence he has exerted upon the analytic and systematic method of botanical classifications, but also by those whose liberal and noble sentiments enable them to appreciate the simplicity of a sterling character, in which to great sensibility of temperament was united the charm of agreeable manners.'

As Humboldt progressed with his work at Paris, and gathered an increasing number of scientific friends around him, the greater was the enjoyment that he derived from his residence in that city, and the more sensitive did he become to the exciting influence of the society in which he moved. He enthusiastically refers to the stimulus thus mutually afforded in his letter to Pictet at the commencement of 1808, when describing the days spent with Gay-Lussac; and the same expression might be employed with equal propriety in reference to all his friends during his long sojourn at Paris.

Humboldt's Parisian friends were, many of them, connected with a former generation, and were contemporaries with him only in consequence of their extreme age. It might almost be said that in his two oldest friends, *Deluc* of Geneva, and *Jacquin* of Leyden, he had selected models for imitation, not merely with respect to vast acquirements and indefatigable industry, but also in regard to their remarkable longevity, for both of these distinguished men in science—born in 1727, died in 1817—were alike spared to the remarkable age of ninety, an age subsequently attained also by Humboldt. Among his friends may also be classed *Ingenhousz*, born at Breda in the year 1730, and *Lalande*, the celebrated astronomer, who was born in 1732.

Side by side with this distinguished astronomer may be ranked his scarcely less distinguished pupil, *Delambre*, who, born in 1749, succeeded his learned instructor in the Chair of

Astronomy at Paris in 1807, and died in 1822; the terms of intimate friendship which Humboldt maintained with both these 'citizens' is evinced by the numerous letters he addressed to them from South America.

Among Humboldt's astronomical friends must also be reckoned the great *Laplace*, author of the '*Mécanique céleste*' and other important works on astronomy; he was the son of a farmer in Normandy, and was born in the same year as Delambre. The elegant eulogy paid to him by Arago renders it superfluous for us to enter upon any criticism of his valuable labours. Compared with the illustrious Laplace, Humboldt's Genevan friend, *Marc-Auguste Pictet*—born 1752, died 1825—to whom reference has been so frequently made, can hold but a secondary place, since his labours were mainly confined to investigations of a subordinate character. He accomplished, however, a valuable work in facilitating an interchange of thought among the various nations of Europe, especially between France, England, and Switzerland, in furtherance of which he instituted the '*Bibliothèque britannique*.' It was mainly through Pictet's exertions that Humboldt's name and writings became known and appreciated in England at a much earlier period than would have been the case if dependent only upon his own exertions. The peculiar regard entertained by Humboldt for his amiable friend was testified by many tokens of friendship and a correspondence maintained throughout a long series of years.

Of Humboldt's Parisian friends the one with whom he enjoyed closest intimacy was undoubtedly *François Arago*, who, born at Estagel, near Perpignan, on February 26, 1786, died at Paris on October 2, 1853. The career of this illustrious man was almost unexampled; at the age of fourteen he began to prepare himself for the *École Polytechnique*, and by the time he had reached twenty he was ranked with the most distinguished scientific men of the day. Among astronomers he held a position as honourable as among physicists and chemists. Even in politics he took a conspicuous part in the eventful year 1848. In a letter to Schumacher, Humboldt speaks of him as 'one gifted with the noblest of natures, equally distinguished for intellectual power and moral excellence,' and again

to the same correspondent he remarks:—‘Although anti-ministerial, even to radicalism, he exercises a considerable personal influence throughout the whole of France.’ He was claimed as a member by nearly all academies and learned societies. He possessed the rare gift of explaining in a clear and forcible manner, yet in flowing and elegant language, those scientific subjects which lie almost beyond the grasp of an ordinary understanding. His works, consisting of sixteen volumes, to which an introduction was written by Humboldt, embrace the greatest variety of subjects, and are a model of conciseness and clearness of style, verifying in a striking manner the French proverb, ‘Le style c’est l’homme.’ In conjunction with Gay-Lussac, Arago was for half a century Humboldt’s most intimate friend, and their intimacy led to a perfect unity of thought on scientific subjects. It was undoubtedly no exaggerated expression of feeling when, in a letter to Geoffroy Saint-Hilaire, dated Berlin, ~~June~~ ^{Jan} 24, 1829, Humboldt concludes with the words: ‘Pray remember me to MM. Valenciennes, Deleuze, and Cuvier, but especially to him *whom I hold dearest in this life*, to M. Arago.’

Upon Humboldt’s return to Berlin an active correspondence was maintained between the friends. This correspondence, part of which has been published in the second volume of Roquette’s collection, gives strong evidence of the intimate friendship that existed between these two eminent men. The limits of this work will not allow of the insertion of more than *one* letter from Arago, and we have selected that from Paris of March 12, 1841.² Humboldt had expressed a wish to pay his old friend a visit, but feared the time might be inopportune. In reply, Arago writes:—‘Can it be that you doubt my inalienable affection? Let me assure you that I should regard any hesitation upon this point as a cruel injury. Beyond my immediate family circle, there is no one to whom I am more devotedly attached than to yourself. You must, therefore, become resigned to your fate; you are the only friend upon whom I could rely in circumstances of difficulty. I am delighted at the thought of spending a few evenings in

¹ De la Roquette, vol. i. p. 277.

² Ibid. vol. ii. p. 214.

the society of one to whom I owe my taste for meteorology and physical geography. I shall have a bed prepared for you at the Observatory. You will arrive in Paris just at the commencement of my course of lectures on astronomy. I am almost scandalised by the sumptuousness of my new amphitheatre.'

At the time when this letter, so youthful in its freshness of feelings, was penned, Arago was fifty-five years of age and Humboldt seventy-two; and yet with what eagerness they both anticipated those happy evenings amid the retirement of the family circle, and the nights occupied upon objects of interest at the Paris Observatory! A touching proof of the affectionate character of this friendship occurs in a letter of an earlier date, in which Humboldt makes anxious enquiries concerning a sick child, and expresses the liveliest sympathy with the sufferings of the little one. In a friendly spirit of conciliation, Humboldt wrote once to Hittorf, the celebrated architect, to whom Arago in his impetuosity had been somewhat unjust:—'M. Arago is, indeed, rather hasty in temper, but he is thoroughly kind and generous at heart.'

Among Humboldt's astronomical friends, Biot, the celebrated physicist, has perhaps the best claim to be ranked next to Arago, who, when but a youth of twenty, was associated with him in 1806 in the measurements for the Spanish portion of the French meridian line. Born in 1774, *Jean-Baptiste Biot* rose to the highest distinction as a mathematician, a physicist, and an astronomer, and became one of the most noted men in France, to whom Humboldt was early attracted from the similarity of their pursuits.

In immediate succession to Biot may be mentioned the name of *Jean-Claude La Méthérie*, born in 1743, since his works form a connecting link between those of Biot and the labours of chemists, physicists, and other scientific experimenters—using the term in the most restricted sense of the word. His 'Théorie de la Terre' excited considerable attention in the year 1795, and his 'Journal de Physique,' of which he was sole editor from the year 1785 till his death in 1817, did much towards the spread and development of physical science. His early studies were directed to theology, subsequently to medicine,

and though he never practised as a physician, it was through medical science in its various branches that he gained distinction in scientific research. Humboldt was so much gratified by the manner in which his achievements in science were alluded to by La Métherie in an essay upon his expedition to America, that in his 'Confessions' he expresses to Pictet his desire that the essay should be widely circulated in England.

Of the French chemists and physicists, those who enjoyed the closest intimacy with Humboldt were Gay-Lussac, Thénard, and Berthollet, facetiously termed by him, as we have already seen in a letter to Pictet, 'Potash,' 'Soda,' and 'Ammonia.' *Louis-Joseph Gay-Lussac*, born in 1778, was, with the exception of Arago, Humboldt's most intimate friend; with him he had climbed Vesuvius and had visited Berlin, with him he had shared the same room at Paris, and together they had instituted important magnetic observations; Gay-Lussac had been associated with Biot in his experiments upon the constitution of the atmosphere, and in the course of the investigations had ascended in a balloon to the height of 23,623 feet. The Éloge delivered on his death in 1850 by Arago before the Institute has since become justly celebrated. The sobriquet of 'Potash' was given him by Humboldt on account of some elaborate investigations which he and Thénard had instituted upon the constitution of the voltaic pile and on the nature of potash. The remarkable manner in which Humboldt first made the acquaintance of Gay-Lussac has already been described in p. 343 of the first volume; they soon after undertook in concert an important work on eudiometry.

Louis-Jacques Thénard, born in 1777, was at the age of twenty appointed chemist to the École Polytechnique, and at twenty-five was elected to fill the Chair of Chemistry at the Collège de France. His investigations were conducted with so much zeal and accuracy, that chemical science was perhaps more indebted to him than to any of his contemporaries. He died in 1857.

Charles-Louis, Comte de Berthollet, was born in Savoy in 1748, and after passing through a course of medical instruction obtained the appointment of physician to the Duke of Orleans. In 1780 he was elected a member of the Royal Academy of

Sciences at Paris, where he filled the Chair of Chemistry; subsequently he became a member of the Institute and a Fellow of the Royal Society of London. He travelled through Italy and visited Egypt as a member of the Scientific Commission. On his return from Egypt Napoleon loaded him with honours and marks of distinction, and conferred upon him the sum of 100,000 francs in compensation for the large expenditure into which he had been led in his zeal for science. At his country house at Arcueil, near Paris, where he died in the year 1822, he always gave a welcome to every votary of science, and thus promoted an interchange of thought among the intellectual men of the day. The most distinguished men were included among the 'Society of Arcueil'—a name assumed by this brilliant assembly—to whom was due the publication of a periodical bearing the title of 'Mémoires d'Arcueil.' It was amid this circle that Humboldt first met Gay-Lussac, at that time his violent opponent, but who subsequently became his sincere and devoted friend. The genus *Bertholletia* was so named by Humboldt and Bonpland in honour of Berthollet, of which the grandest species—*Bertholletia excelsa*—is the Juvia or Brazil-nut tree, one of the largest trees of the primeval forests in the central parts of Brazil, bordering the Amazon. In its colossal fruit are contained those hard three-cornered nuts, similar in flavour to the cocoa-nut, which abound in all the fruit markets of Europe, and pass among the ignorant as palm-nuts. Berthollet received from his friend Humboldt the sobriquet of 'Ammonia' from the circumstance that in his numerous chemical investigations he had devoted special attention to the analysis of ammonia.

The chemists *Fourcroy* and *Vauquelin* next come in review.

Antoine-François Fourcroy, the elder of the two, was born in 1755; he took an active part in the events of the Revolution, was elected a deputy in the National Convention, and a member of the Council of Five Hundred, and was afterwards appointed Director-General of Public Instruction. In this capacity he organised the medical schools of Paris, Montpellier, and Strasburg, and instituted throughout France not only various schools of law, but many scientific societies; chemistry, however, claimed most of his attention, and in this branch of science he

gained considerable eminence as an analyst. He died at the close of the year 1809. Humboldt was acquainted with him prior to his journey to America, and frequently corresponded with him and Dolomieu, the well-known mineralogist, from Bayreuth, while engaged upon his experiments on galvanism, in reference to which Fourcroy (see vol. i. p. 197) thus expressed himself:—‘I think Herr Humboldt is a little rash in his conclusions . . . still this does not prevent me from regarding his experiments as of extreme interest and meriting further elaboration. I never allow myself to do anything hurriedly in this field of investigation; I proceed slowly but surely, and hope in time to attain the end I am seeking. I am quite impatient to see what Hildebrandt and Humboldt have written on this subject; hasty as they seem to me to be in some of their conclusions concerning the chemical processes of vegetable and animal life, I do not know why their mode of analysis should not be as successful as ours in ascertaining the nature of living organisms. While their zeal and courage excite my admiration, they will scarcely be disposed to censure our wise reserve and prudent hesitation.’ As Fourcroy was thus expressing himself upon Humboldt’s almost boyish efforts in the field of science, Humboldt, in a letter written but a short while previously, had been excited to exclaim: ‘How much light may we not expect on these subjects from Fourcroy and Vauquelin!’ These distinguished men were thus early imbued with a mutual appreciation, and this instance affords a proof of the remarkable esteem accorded to Humboldt when a mere youth by the first scientific men of Paris.

Nicholas-Louis Vauquelin, born in Normandy in 1763, was, when but twenty, associated with Fourcroy as assistant in his chemical labours, and continued in active co-operation with him for the space nearly of a quarter of a century. Vauquelin filled with distinction various offices and posts of honour, and upon the death of Fourcroy succeeded him as Professor of Chemistry at the *École de Médecine* at Paris. He died in the year 1829.

Zoology, also, at this time, found many brilliant representatives in Paris, who, like Fourcroy and Vauquelin, accomplished much valuable work by the system of concerted labour. We

are led at once to think of Lamarck and Latreille, of Cuvier and Duméril, of Geoffroy Saint-Hilaire, father and son,—for the latter belongs in part to this period,—and of Valenciennes and Milne-Edwards, with whom Humboldt made acquaintance during the latter part of his sojourn in Paris. Of these distinguished men three were Humboldt's coadjutors.

Jean-Baptiste Pierre Antoine Lamarck was born in the year 1744, in the Department of the Somme. Early destined for a military career, he soon renounced the profession of arms for the prosecution of scientific studies, especially botany and zoology, and in 1788 became Daubenton's assistant at the Jardin des Plantes. Five years later he was appointed Professor of Zoology at the Museum of Natural History, and elected a member of the Institute. He continued to deliver lectures to the age of seventy-four, and died at the advanced age of eighty-five years. Besides the important results he achieved in botany he rendered very valuable service to zoology, in the study of the invertebrate animals—a department of labour in which he found a worthy successor in Latreille.

Frédéric Cuvier, the younger brother of the distinguished Georges Cuvier, was an eminent zoologist. He was born at Montbéliard in 1773, received a professorship, and was appointed Curator of the Anatomical Museum in the Jardin des Plantes. In conjunction with Geoffroy Saint-Hilaire, he published the '*Histoire naturelle des Mammifères*.'

André-Marie Constant Duméril is known through the valuable assistance he rendered Cuvier in the publication of his celebrated work '*Leçons d'Anatomie comparée*.' He was born at Amiens in 1774, and was eminent alike as a physician, anatomist, physiologist, and zoologist; as an intimate friend of Humboldt's he was frequently consulted by him upon the zoological portion of his great work on America.

Geoffroy Saint-Hilaire (Étienne)—the elder—was a man of scientific eminence, and an intimate friend of Humboldt's. Born in the year 1772, he was early destined for the church, afterwards for the law, and finally for the profession of medicine. He devoted himself to the study of the natural sciences under Haüy, Fourcroy, and Daubenton, and before the age of twenty-one received the appointment of Professor of Natural

History, though he did not enter upon his duties till the year 1794. In 1798 he visited the Nile as member of the Government expedition to Egypt, and there won distinction by his zeal and industry. Upon his return to France he resumed his labours at the Museum, and held in succession various appointments of increasing honour and responsibility, during which he was occasionally brought into collision with his distinguished rival Cuvier. His works on zoology prove him to have been an industrious and ingenious writer; he died in 1844. Long after Humboldt returned to Berlin, his friendship with Saint-Hilaire was maintained by letters of the most affectionate character, and the esteem with which he regarded his gifted friend is shown in the following letter to his widow:¹—

‘Sanssouci: July 18, 1844.

‘Madam,—Honoured for so many years with the friendship of the illustrious man whose loss is so deeply deplored, I feel a keen desire to express sympathy with your grief, and to renew upon this sad occasion the homage of my respectful devotion. In the midst of your sorrow you cannot fail to be touched with emotion, not only at the wide-spread admiration everywhere excited, especially in his native country, by the eminent services rendered by your noble husband to the cause of science, but also by the universal appreciation evinced of a character presenting the rare combination of so much that is noble in disposition with intellectual endowments of a superior order. The elevation of your sentiments will lead you to find consolation in these expressions of universal sorrow, and in the sweet recollections of the happiness you were enabled, as a loving and affectionate wife, to shed over the latter days of my valued friend.

• Pray accept the assurance of the profound respect with which I have the honour to subscribe myself,

‘Madam,

• Your very humble and obedient servant.

‘AL. HUMBOLDT.’

¹ De la Roquette, vol. ii. p. 275.

The high esteem entertained by Humboldt for the father was likewise accorded to the son, *Isidore Geoffroy Saint-Hilaire*, who, born in 1805, was early distinguished for his proficiency in science, and devoted himself to the study of zoology; at the age of twenty-eight he was elected a member of the Academy of Sciences in Paris. He died in 1861, leaving behind him many valuable works on zoology.

Among the zoologists to be ranked among Humboldt's personal friends, we have yet to mention *Henri Milne-Edwards*, a native of Belgium, who was born at Bruges in the year 1800. Educated at Paris, he entered the medical profession in 1823, but turning his attention to natural history, he soon acquired distinction by his writings, and for one of his earliest works, '*Recherches anatomiques sur les Crustacées*,' published in 1828, he received the public acknowledgments of the Academy. His experiments upon the nervous system with galvanism gained him the friendship of Humboldt, who offered him valuable assistance from his own experience, and proposed to communicate the results to the Academy. Humboldt concludes this letter with: '¹—Pray excuse the length of this interminable epistle. It is a pleasure to hold converse with those in whom vast stores of knowledge are united to a simplicity of character and benevolence of disposition that inspire the confidence of the ignorant.' Humboldt, from his exalted position, could scarcely have expressed in a more flattering manner his admiration for the talents of his young friend. These words seem to bear the impress of his long sojourn in France, and recall to mind the saying of Queen Isabella: 'None but a Frenchman knows how to pay a compliment.'

We may also mention two other zoologists who hold a distinguished place in science—*Provençal* and the Comte *Étienne de Lacépède*. The latter in early life served in the Bavarian army, and subsequently devoting himself, under the guidance of Buffon and Daubenton, to the study of natural history, he won a position equally high among men of science as among statesmen. He was born in the year 1756, and died of small-pox in 1825.

¹ De la Roquette, vol. i. p. 251.

In enumerating Humboldt's botanical friends in Paris, we encounter the names of *Decandolle*, of *Desfontaines*, the aged tutor of Decandolle, and lastly of *Antoine-Laurent Jussieu*, the nephew and representative of the three celebrated brothers of that name. Jussieu was born in 1748, and after a long life spent in the midst of an activity that falls to the lot of few votaries of science, died in Paris in 1836, where he was honoured with a public funeral.

Auguste-Pyrame Decandolle was born in 1778 at Geneva, where he died in 1841. He was one of the greatest botanists that ever lived, an acute observer and a most industrious investigator, and was especially distinguished by his researches on the physiology of plants, and for his skill in their systematic classification. He enjoyed the intimate friendship of Humboldt, and the correspondence at this time maintained between them affords many interesting proofs of the cordiality of their intercourse. Thus Humboldt writes from Paris, March 24, 1812: '— . . . 'I have been charged with a thousand messages to you by MM. Berthollet and Laplace, as well as by Gay, with whom I am living at present, on account of his central position, Rue d'Enfer No. 67. Nowhere does there exist a more discriminating appreciation of the extensive range of your acquirements, of the amiability of your character, or the disinterestedness of your love of science, than within the circle of our little society'—the society of Arcueil. The following passage is interesting from the allusion it contains to the state of Humboldt's health, and to the affection of the arm from which he subsequently suffered:—'My health is excellent, with the exception of my arm, of which I have not the full use.' He also expresses the impatience he felt to start upon the projected expedition to Russia, from which he was hindered by the publication of his American works:—'I am for ever working at this interminable journey, which worries me to death.' In another letter² to Decandolle, written in 1818, he again alludes with impatience to 'this journey which will never be finished:—'I will not any longer delay presenting you in my name and in that of my coadjutors, MM. Bon-

¹ De la Roquette, vol. i. p. 193.

² Ibid. vol. i. p. 210.

pland and Kunth, Parts V., VI., and VII. of our "Nova Genera," trusting you will receive them with indulgence as the expression of our esteem and admiration. In a work of such extent every part cannot be carried out with equal care, and therefore I would beg of you not to bring our work into comparison with your own productions. I am happy to say that I almost see the end of this interminable undertaking. In a few days the second volume will be out of our hands.' In reference to the state of Paris, he further adds to his friend at Geneva:—'You will find Paris less disposed than ever to occupy itself with either science or literature. They do but little at the Institute, and quarrel even over that. *There is nothing tends so much to the refinement of the character as the study of Nature.*' This grand truth was never more completely verified than in his own experience. With the establishment of the Restoration a depressing reaction, extending through every branch of scientific research, had succeeded to the extraordinary impulse given to science, under the brilliant reign of Napoleon.

Humboldt seems to have been but little occupied with botany during his stay at Paris, as, upon Bonpland's return to South America, the botanical part of the great work was committed to Kunth, who proved himself fully equal to the task.¹

Among the geological friends with whom Humboldt associated in Paris may be mentioned the Abbé René Just Haüy, born in 1743. He laboured successfully in various branches of science, but gained most distinction by his ingenious researches on crystallisation—a subject upon which he contributed papers of importance, almost up to the time of his death in 1822, when close upon his eightieth year.

Next to Haüy we call to mind his pupil and successor in office at the School of Mines, *Alexandre Brongniart*, well known as an ingenious and successful student in science. He was born at Paris in 1770, and at the early age of twenty-four gave lectures at the various scientific institutions of Paris,

¹ Through a strange chance, the author was in later years brought into personal contact with Bonpland. An account of this interview, which took place at Corrientes, is given in the Appendix to vol. i.

upon mineralogy and geology, which he continued till the year 1821. He also gave instruction in zoology. Humboldt had the highest respect for his scientific acquirements, and as late as 1840 he sent to Paris for his investigation several crustaceous infusoria from Sanssouci.

Foremost among the mineralogists frequenting the scientific circles in Paris stands *Pierre-Louis-Antoine Cordier*, born in 1777; his career closely resembled that of Humboldt, since he was not only a miner by profession, but also an extensive traveller. He had visited the Alps with Dolomieu, and afterwards, in company with him, joined the expedition to Egypt; later, he travelled through Germany, France, and Spain, and undertook a voyage to Madeira and Teneriffe. The friendship formed between him and Humboldt, drawn together as they were by the similarity of their path in life, was cemented by mutual esteem, and maintained for nearly half a century. Cordier survived his distinguished friend, and died in 1861, at the advanced age of eighty-four. It is certainly remarkable, as we have before observed, that so many of Humboldt's friends should have attained an extraordinary age. A notable instance of this is furnished in the case of another geologist, *Jacques-Louis-Marin DeFrance*, a mutual friend of Cordier and Humboldt, who, born in the year 1758, lived to the extreme age of ninety-three. In his sixty-sixth year he dedicated to Humboldt a work on petrifications, in acknowledgment of which Humboldt penned the following letter: ¹—

‘ March 1824.

‘ Sir,—As I had not the pleasure yesterday of expressing to you verbally my deep sense of the honour you have conferred upon me, allow me in this form to offer you my sincere thanks. I am deeply touched by your kind remembrance, and I have not the heart to reproach you for having singled me out for a distinction so marked at a time when the commendation of the public is a cause of irritation to all who are not its recipients. I prefer to confess to you simply how much I feel honoured by the friendship of one who has rendered services of such value both in geology and natural history, who is distinguished by a

¹ De la Roquette, vol. i. p. 224.

mind of such discrimination, powers of observation so acute, and for whose character I entertain so sincere a regard. I am only awaiting the return of our young friend, M. Valenciennes, to pay you a morning visit at Sceaux, that I may renew the homage of my affectionate respect, and have the pleasure of seeing you surrounded by that magnificent collection which has exercised so important an influence upon the study of the geological formations of our globe.

‘AL. DE HUMBOLDT.’

We are left in uncertainty as to how far Humboldt's acquaintance with *Élie de Beaumont*, born in 1798, had proceeded during his residence in Paris. In later years they became very intimate friends. Humboldt had a peculiar regard for this eminent man, and it was doubtless no mere phrase of courtesy with which he once commenced a letter to him from Berlin: ¹ ‘When I am at a loss for some information, as often happens, I say to myself, Oh that I could only go and ask my friend M. Élie de Beaumont!’ Humboldt's correspondence with him shows how earnestly he sought to keep up his intellectual communion with his Parisian friend; the letters, while replete with subjects of importance, are animated throughout by a vein of humour. When, in a letter to Beaumont, Humboldt refers to the death of Blumenbach, his former tutor at Göttingen, in the somewhat unfeeling words: ² ‘The death of Herr Blumenbach, who, like many other men of science, has had the misfortune to survive a literary reputation somewhat too readily acquired,’ it is but one of those harsh expressions characteristic of the restless genius who was far from outliving his own literary fame.

Such were the men with whom Humboldt chiefly consorted during his residence in Paris. The number of distinguished names which we have here introduced is ample evidence of the truth of the foregoing statement, that in the execution of his great work Humboldt met with the encouragement and assistance he required among the numerous scientific friends by whom he was surrounded.

¹ De la Roquette, vol. ii. p. 353.

² Ibid. vol. ii. p. 177.

Humboldt was too much the man of genius to confine his attention exclusively to one sphere of knowledge; his sympathies extended to every subject of human interest, and therefore, while deeply engaged in science, he was no indifferent spectator of the course of political events. During his residence in the French capital he was accustomed not only to watch with close attention the events of the day, but to take a lively interest in the ordinary social incidents of the great and little world of Paris. Soon after his return from America he wrote from Paris to his friend Pictet: 'I pass my time between the École Polytechnique and the Tuileries.' He could interest himself alike with the affairs of the empire and the management of his retorts. He claimed among his friends Guizot and Chateaubriand, but he felt quite as much at home in the house of Madame Gautier, the sister of Delessert, the banker, a lady who had enjoyed the friendship of Jean-Jacques Rousseau, and to whom this celebrated philosopher had dedicated his *Letters upon Botany*.

Of his numerous political friends we shall refer only to *Guizot*.

The friendship that for half a century existed between Humboldt and Guizot was founded upon the unalterable regard mutually entertained by these two eminent men—for such a term of distinction will scarcely be denied to the celebrated Frenchman, who was equally prominent in literature and in politics. Humboldt's correspondence with him extended from 1810 to 1848. His early letters are marked by an unenvious appreciation of the young aspirant to literary eminence, while those of later date show the footing of intimate relationship upon which he stood with the Minister of State. He made it his business to introduce into Germany even the early productions of the promising young French writer. On May 4, 1811, he wrote to him: 'I feel I have been very remiss in not thanking you earlier for your kind present. I have been for a few days on a visit in the country—an event of most rare occurrence—and during my absence I read your admirable introduction amid a circle of friends who were fully able to appreciate the generosity of feeling, the

¹ De la Roquette, vol. ii. p. 43.

delicacy of perception, and the soundness of judgment, by which all your writings are characterised. I should like to discuss these views with you, for I feel more than ever the necessity of exciting an appreciation for all that is truly loveable. I hope you will not deem me presumptuous if I crave permission to send this first part of your book to M. Ancillon. I am wholly without pecuniary means, and though pleased with your work from the ideal manner in which you have developed the principles of education, I still feel I ought to see you, and talk with you over your project. . . . We must arrange some day to go together to Saint-Germain. . . . With the assurance of my profound esteem and affection, I remain, &c.,

‘HUMBOLDT.’

This first part of Guizot’s work upon education was followed in a few days by a second pamphlet, in acknowledgment of which Humboldt thus expressed his thanks: ¹—

‘Paris: Thursday, May 17, 1811.

‘It is very kind of you to bear me in remembrance. I have already read through your second pamphlet, in which you have developed more perfectly your admirable and useful project. Your remarks upon differences in temperament are very judicious, and evince great delicacy of perception. Children are difficult to paint, on account of their forms being so undetermined. In a country where metaphysics are as much shunned as the yellow fever or liberal sentiments, the tone of thought must often be lowered to suit the reader, and maxims have to be expressed with greater definiteness of form. I was glad to see that you have resuscitated Campe’s method. You may perhaps not be aware that Campe was tutor to my elder brother. I was at that time little more than an infant, but I have been told since that he was the first upon whom Campe tried his system. I have no doubt that the Journal of Mademoiselle de M. will be well received,’ &c.

The last few words are associated with an important event in Guizot’s life. Amid the brilliant society assembled at the house of Stapfer, the Swiss Ambassador at Paris, where he

¹ De la Roquette, vol. ii. p. 47.

filled the position of tutor, he made the acquaintance of Mademoiselle Pauline de Meulan, engaged in the editorship of the periodical 'Le Publiciste.' To this lady, equally distinguished with himself for the most enviable qualities of mind and heart, he was united in marriage in 1812. On receiving the announcement of his friend's engagement, which had been confidentially communicated to him by Frau Stapfer, he penned the following letter to Guizot : '—

' I will not quarrel with you for having somewhat neglected me since the arrival of Herr Stapfer. I suspected the cause, and congratulated myself both on my own sagacity, and on your happiness. While all the world is talking of your talent and the extensive range of your knowledge, it is left to me to give you the simple assurance of the affectionate interest you have been able to inspire. My curiosity had become excited, as Frau Stapfer would tell you. You are about to enter upon a new existence, and everything around you will be changed. The world will dress itself in smiles, and life itself will assume a new charm. One cannot avoid interesting oneself in an event of so much importance both to you and to your friends. It is indeed rare to see the noblest qualities of head and heart united to the charm of imagination and the highest gifts of reason, whereby everything in life is estimated at its true value. Mademoiselle de M. possesses also another heritage, difficult to preserve in an age which, already weary with levelling fortunes to one uniform standard, seeks to abase everything that is exalted in the world of morality. The world is unanimous in according its homage to the lady of your choice, not only for the generous devotion she has displayed in the midst of turbulent events, but also for a nobility of character, and an unexampled courage, which gain in lustre from the simplicity to which they are united. It is a matter for congratulation when honour and virtue are so exemplified as to command the admiration of the public.

' I shall continue to feign ignorance of your engagement. In the midst of your preoccupation there will doubtless be moments which you can still devote to friendship; I shall then be glad to hear when I may have the honour of being

¹ De la Roquette, vol. ii. p. 48.

presented to Mademoiselle de M——. I shall be anxious to win her favourable regard. Ambition, you see, mingles with all I do.

‘HUMBOLDT.’

Shortly before leaving Paris, Humboldt sent to Guizot—who was at that time exclusively occupied with literature—a copy of his ‘*Essai politique sur l’Île de Cuba*,’ together with a work by William von Humboldt on ‘*La Métaphysique des Indous*,’ accompanied by the following note: ‘—

‘As I take a much keener interest in the success of my brother’s literary productions than in my own, I should be very grateful if, under your auspices, the “*Bhagavád-Gita*” could be brought before the notice of the public in “*Le Globe*”—the only journal characterised by any elevation of sentiment, or conducted in a noble spirit of independence. Pray excuse this candid expression of fraternal affection, and accept the renewed assurance of my esteem and devotion.

‘HUMBOLDT.’

Humboldt’s departure from Paris produced no diminution in the affectionate interest he had always maintained in his friend Guizot, and even while travelling in Asiatic Russia, during the summer of 1829, he was never unmindful of him. In two letters addressed to him at Paris, and entrusted to the care of the historian Friedrich von Raumer, he renews the assurance of the ‘sentiments of admiration and affectionate devotion which he should entertain for him through life,’ and in few words proceeds to give an important insight into the Russian expedition from which he had just returned. As these words are addressed to Guizot, it will not be inappropriate to introduce them here, although not belonging to this period: ‘—The expedition to the Altai, on the confines of Chinese Mongolia and on the borders of the Caspian Sea—a journey of more than 4,500 leagues—which I have just accomplished, has left upon my mind some grand impressions. It is the people, especially the great nomad population, which has excited my interest far more than the majestic rivers or the snow-capped peaks.

¹ De la Roquette, vol. ii. p. 76.

² Ibid. vol. ii. p. 83.

The imagination is led back to those primeval days when whole nations were in perpetual migration. The history of the past finds a striking exemplification in the fact that in our own day one million three hundred thousand Kirghissians are still leading a wandering life, transporting themselves on their waggons. We have been certified of this by history, but I have a mania for seeing everything with these old eyes of mine. We were favoured with the finest weather throughout our summer excursion, and for nearly nine months I was almost constantly in the open air, day and night. It was a delicious sedative.'

A few months later, in consequence of the Revolution of July, Guizot became a member of the ministry formed by Laffitte. Humboldt used his influence with the renowned statesman to further the claims of men of science, as in the case of Valenciennes and Bonpland. A letter¹ addressed to him November 2, 1832, concludes with the words:—'Pray present the homage of my respectful devotion to Madame Guizot, for whose talent and amiability I have the highest admiration, and do not quite forget an old friend who has been devoted to you from antediluvian times.' He was soon called upon to write a letter of much sadder import. Guizot had lost his first wife, the talented Mademoiselle Pauline de Meulan, in August 1827, and was married the following year to her niece, Mademoiselle Élise de Dillon. It was this lady, the second Madame Guizot, to whom Humboldt here alludes. Her death took place early in the following year 1833, nearly at the same time as that of Humboldt's sister-in-law, the wife of William von Humboldt. Upon which occasion Humboldt thus wrote to his friend from Potsdam on May 25, 1833:²—

'Had I thought that I could trust myself merely to the guidance of feeling, I confess that my heart would have dictated the expression of my profound grief some months ago. Received into your family with so much kindness and pleasant hospitality, I am well able to appreciate the severity of your irreparable loss. How irresistible is the charm when to those

¹ De la Roquette, vol. ii. p. 95.

² Ibid. vol. ii. p. 105.

attractive qualities which form the embellishment of life are united sentiments of the noblest character, gifts of intellect, and that atmosphere of serenity so essential to the politician who is combating, albeit successfully, the boisterous waves of public life. That peaceful influence to which you have been indebted for the happiest period of your life has left you for ever; but the force of your character and the exercise of a philosophy which finds nobler use for its powers than the discussion of dry abstractions, will inspire you with courage to labour in the fulfilment of your high destiny. From the sad condition of my poor brother, who—wholly given up to grief, seeks in the depth of his misery the only consolation that can render life supportable, while he occupies himself with intellectual pursuits as with the drudgery of a task—I can readily find material with which to paint a vivid picture of your sorrow. For many years I have been honoured by your interest, I might almost say by your friendship. The remembrance of our former intercourse will lead you to pardon the frankness with which I have expressed myself in these few lines. . . . Pray accept from my brother and myself the tribute of a long-cherished affectionate regard.

‘AL. HUMBOLDT.’

A similar tone of confidence and sympathy marks even the letters of introduction in which Humboldt brought before the notice of Guizot his scientific friends—Boussingault, Ticknor, &c. When visiting Paris in 1840, he had the pleasure of renewing his personal intercourse with his ‘illustre confrère.’

Guizot on his part showed himself no less eager to prove to Humboldt the sincerity of his friendship and esteem, and lent the whole weight of his official influence in support of the claims of eminent Germans for whom Humboldt solicited the decoration of the Legion of Honour.

Among the artists to whom Humboldt accorded his friendship none occupied so prominent a position as the distinguished painter, Baron *François Pascal Gérard*, equally noted in the new French School of Art for his portraits as for his historical paintings. He was born at Rome on March 11, 1770, and came to France at an early age, becoming at eighteen a pupil

of David. Of the portraits he painted—250 in number, of which 100 were full-length—one is a portrait of Humboldt, which is still preserved at Tegel. The following sketch of this distinguished painter is furnished by Gans,¹ who was introduced to Gérard by Humboldt in the year 1825:—‘Gérard the artist presents us with a character widely different, but no less interesting (than Cuvier). Apart from his profession, in which he not only greatly excelled but enjoyed the reputation—rare for an artist—of being a critic of undoubted taste and discrimination, there was no subject in science, politics, or social life, upon which he could not converse with the lively wit and acuteness of an Italian. His receptions, scarcely ever crowded till after midnight, and to which the summer formed no interruption, were thronged with men of science, artists, actors, statesmen, men of fashion, and foreigners, and were pre-eminently distinguished by that promiscuous character peculiar to French society. Cards and conversation, not here separated, as in Germany, formed the source of entertainment, in which the peculiar charm lay in the entire absence of constraint.’ . . .

To the distinguished men we have thus passed in review might perhaps be added the names of Poisson, Fourier, Cauchy, Laugier, Matthieu, Malte-Brun, La Roquette, Jomard, Letronne, Champollion, David, Laroche, Denon, &c., as well as Silvestre de Sacy and Nerciat, from whom he sought assistance in his studies of the Asiatic languages. Towards all of these he cherished, till the close of life, a sincere attachment and a grateful sense of the favours he had received at their hands.

¹ ‘*Rückblicke auf Personen und Zustände*’ (Berlin, 1836), p. 19.

CHAPTER III.

CHARACTERISTIC TRAITS AND PERSONAL INCIDENTS.

Preservation of a Position of Independence—Cautious Behaviour as a Foreigner—Egyptian Antiquaries—Daily Routine—Places of Residence—Social Intercourse—Readiness to assist Fellow-Countrymen—Patronage of Artists and Men of Science—Visit of King Frederick William III. to Paris in 1814—Humboldt accompanies the King to London, Aix-la-Chapelle, Verona, Rome, and Naples—Termination of his Sojourn in Paris.

WHILE Alexander von Humboldt was devoting himself to his scientific pursuits in Paris, his brother William, since his return from Rome in 1808, had been taking an active part in the Prussian Government as Minister of Public Instruction. To his intervention with the king may be ascribed the foundation in 1809 of the University of Berlin, which was formally opened the following year. After a brief tenure of office he resigned his seat in the cabinet, and accepted the appointment of Ambassador to Vienna.

At this juncture the Chancellor of State, Von Hardenberg, to whom the administrative talents of Alexander von Humboldt had become known during his official employment at Bayreuth, eagerly sought to secure his services in the office vacated by his brother, even should he decline to accept the title of Minister of State. Humboldt, as a man of science, preferred, however, to maintain a position of independence, the more so as the publication of his voluminous works on America, notwithstanding the co-operation of Bonpland, Oltmanns, and Willdenow, was still far from being complete.

Upon the same grounds he declined a proposal made to him in London on December 12, 1825, by Father Thomas Murphy,

on behalf of the Mexican Government, soliciting his intervention with the cabinets of Vienna and St. Petersburg for the negotiation of a treaty with the new independent States of Central America. Humboldt's courteous refusal, dated December 20, 1825, is couched in the following terms: '—The more openly my opinions have been expressed in my works, the less do I feel disposed to involve myself in any political negotiation—however noble the object—which would in any way be inconsistent with my present position. My estrangement from politics has compelled me to refuse the honourable proposals made to me from time to time by my own sovereign. I need not remind you how greatly I was annoyed by the mere idea of lending my name for the formation of mining companies, or the establishment of scientific institutions. It would be wholly inconsistent with my character and my innate horror of the mysteries of diplomacy, were I to renounce a position of independence which I have so long preserved, and which appears to me to be the only one that a man of letters residing in a foreign country can with dignity maintain.'

The idea that Humboldt evinced any peculiar preference for political society is as little countenanced by his mode of life in Paris as by any other part of his career. When statesmen and political leaders of various parties sought out his society, he met their advances with a ready and cordial response, and when his opinion was consulted, he frankly placed at their disposal his vast stores of knowledge and experience. In a letter to Count Cancrin in the year 1828, he mentions having counselled the Mexican Government against the introduction of a platinum coinage, and in reply to an enquiry from the French Ambassador at Berlin as to the accuracy of the given longitudes of the eastern coast of South America,¹ he gave a complete *résumé* of the subject, in the compilation of which he solicited some particulars from Berghaus. In 1854 the Brazilian Plenipotentiary, Lisboa, sent for his inspection the boundary treaty arranged between Venezuela and Brazil, laying before him at

¹ Found among his papers preserved at the Observatory at Berlin.

² 'Briefwechsel Alexander von Humboldt's mit Berghaus aus den Jahren 1825-28' (3 vols. Leipzig, 1863), vol. ii. p. 285.

the same time a series of questions relative to treaties of an earlier date.¹

Throughout his long residence in Paris, Humboldt never wished to be regarded otherwise than as a foreigner. On this ground he declined the honour of being proposed for election as Vice-President of the Geographical Society of Paris—a proposition made to him by his friend Malte-Brun. His reply is dated Paris, March 27, 1824 : ²—

‘Sir,—M. Eyriés [a geographical fellow-labourer with Malte-Brun] will have already expressed to you my desire not to be placed upon the list of Vice-Presidents for the Geographical Society.

‘To carry out successfully the noble purposes contemplated in the formation of this society, as well as to take advantage of the generous assistance offered by your Government, it is essential that not only the President but also the Vice-Presidents should be in frequent communication with the various ministers, at the head of the Colonial Office, Board of Trade, &c. It would not be possible for me as a foreigner to enter upon these relationships; I feel sufficiently honoured by being chosen a member of the Geographical Society, and therefore while expressing my respectful thanks to those who have been kind enough to wish me nominated to the Vice-Presidency, I beg you will not place my name upon the list of candidates. Four years ago, previous to the first election, I gave expression to these sentiments, and I insist the more strongly on this request, since as I cannot accept the honour intended me, the society would be put to the inconvenience of a second election. I embrace this opportunity of repeating to you the assurance of my affection and respect.

‘AL. HUMBOLDT.’

Nothing annoyed him more than the public mention of his name in connection with political events, although he might be convinced that such communications were not dictated by any personal ill-will; of this we have evidence in the following

¹ Found among Humboldt's papers.

² De la Roquette, vol. i. p. 223.

letter to Malte-Brun,¹ written apparently during the last days of the empire, possibly in 1808, at the time that Napoleon was receiving a homage almost divine at Weimar and Erfurt:—

‘The “Journal de l’Empire” stated yesterday that I was expected at Weimar. ‘I am mentioned in connection with Madame de Staël, and with the detractor of Racine. Madame de Staël is never alluded to in this journal except in a manner that would render obnoxious to the Government all who are represented as maintaining any relationship with her. Why, therefore, am I mixed up with the affairs of Madame de Staël? There are only two people in the North (*Nord**) of the name of Humboldt. I am living an unobtrusive life at the École Polytechnique. I have no connection with Madame de Staël; and I am no more thinking of going to Weimar than to St. Petersburg. My brother is the envoy of the King of Prussia at Rome and Naples; he is living quietly at Rome, suing for the divorce of some Prussian Catholics, and closely occupied with classic literature and the fine arts. Had you seen the article, I feel sure you would have struck it out. You have on other occasions shown me kind consideration. I have nothing to reproach myself with in my conduct either to you or to M. Étienne [assistant editor of the above-named journal], for whose talents I have ever expressed great admiration, and who has always appeared to take an interest in my labours. Why draw public attention to my name at a time when it is easier to do an injury than to render a service? I had come with the intention, dear M. Malte-Brun, of speaking to you with that frankness which is a part of my nature, and which I hope never to lose, were I to travel as far as Lassa or Candahar.’ . . .

In no paper could the circulation of a false report have been more annoying to him than in the ‘Journal de l’Empire;’ for, as he proceeds to remark to Malte-Brun, ‘there is no hope for one in this world of sorrow until a work is announced in the “Journal de l’Empire,” which boasts of a circulation of thirty thousand.’ And now in the columns of this imperial organ he finds himself mentioned in connection with Madame de Staël, who, being at variance with the emperor, was an

¹ De la Roquette, vol. ii. p. 59.

² It ought surely to be ‘world’ (*monde*) here.

exile from France, and therefore drew down suspicion upon everyone who associated, or was in any way connected with her, especially if a foreigner residing in Paris. Humboldt, moreover, seems never to have been inspired with any great admiration for this talented, though exceedingly arrogant woman, even when meeting her as one of the sentimentally poetic circle assembling at the house of his brother at Albano.

Humboldt, as a German, could only secure a peaceful residence in Paris for the completion of his scientific labours by the maintenance of the greatest reserve on political subjects—especially during the war of 1813. It would be doing him therefore an injustice to infer from this any want of sympathy in the affairs of his country. The following letter to his sister-in-law, Caroline von Humboldt, carefully as it is worded, gives evidence in every line that he was willing to run any risk in making himself useful to others through the relationships he had formed at Paris.

‘Paris: August 24, 1813.

‘My dearest Li,—We are indeed living in wonderful times, when everything is rapidly hastening to its consummation. Scarcely a week has passed since I wrote to you through a mercantile house, and now we hear that the mails have probably been stopped, and that my letter cannot have reached you. I am going to entrust these few lines to Floret, who is also going to beat a retreat: thus every avenue is closed, and I shall live here in as complete isolation as on the Orinoco. I do not intend to murmur, but shall joyfully endure if God in his over-ruling Providence should bring succour to oppressed humanity. But it will deeply grieve me to be long without news; would that there were some channel of communication still open. Our letters are not on subjects of importance, and now we must restrict ourselves to our family relationships—to yourself, Bill [as he called his brother William], and the children. Every battle fills me with anxiety about Theodore.¹ I am now for the first time experiencing

¹ Theodore, a son of William von Humboldt, after completing his education at the University of Heidelberg, entered the Prussian army as a volunteer, and served in the campaign against Paris. He died at Berlin on June 26, 1871.

what it is to be personally connected with the bloodshed of war. A feeling of dread mingles with all one's plans, hopes, and wishes. I have not had a line from William since he went to Prague, although I have written to him there. Perhaps he has been fearful of compromising me. Though I have escaped, it is a fact that many people here have been brought into trouble by letters from Germany. I am very well, with the exception of frequent fits of melancholy and irritating stomach-ache, and I am working hard without feeling it to be an effort. My works ought to provide a maintenance both for myself and my immediate dependents, and this I think I can accomplish. Of my arm I can say nothing; at all events it is not worse. I have to-day signed for the second time my certificate; should the pension be paid, and Kunth be able to save me a little money, I should like William to send me some time a bill of exchange here (not on Delessert) for one hundred louis d'or. It will be very acceptable, but he is on no account to send it unless he can reimburse himself out of the pension, and remit the money with perfect convenience. Should letters be sent to me during an armistice—an opportunity that is likely to occur—they had better be enclosed to Dorn, the Secretary of State, or the Prince of Neuchâtel. Official channels are always the safest. God forbid that Theodore should ever be in a position to need my intervention; there is nothing that for his sake I should so much dread. Should Providence, however, so ordain it, you may depend, dear Li, upon my tenderest love and truest affection. There is nothing that I would not then sacrifice to alleviate his position. Give him my love, and tell him how much I am delighted to hear of his manly bravery and praiseworthy conduct. After what he has already suffered, I feel the less anxious about him; misfortunes will surely not continue to accumulate on the same head. . . . I am not writing specially to Bill to-day; he will, I hope, see this letter, and he well knows my inalienable affection for him. Kiss the dear children. . . . Farewell, my dear sister! These are wonderful times. I feel persuaded that the gifts of Providence are bestowed with special reference to our being useful to others in times of affliction. With unchangeable affection, ever yours,

‘ALEXANDER VON HUMBOLDT.’

The scientific results received from time to time from the expedition to Egypt were viewed by Humboldt with the keenest interest. The French explorers of the East and the mysterious sources of the Nile found in the illustrious American traveller one who regarded their labours with the most appreciative sympathy. To this an eloquent testimony is afforded in his letters to Jomard, Champollion, and Letronne. Jomard, the celebrated geographer and Egyptian antiquary—born in 1777, died in 1862—was for more than half a century the friend of Humboldt, to whom he was continually rendering various acts of courtesy; for Humboldt not only frequently introduced to him foreigners of distinction with the request that he would conduct them through the collections of antiquities in Paris, but did not hesitate on one occasion to bring before his notice a governess, Mademoiselle Bourdean. During a correspondence that was maintained for many years, Humboldt was incessantly applying for information on a variety of subjects from his learned friend. Thus he writes from Paris on December 30, 1816:—‘If it were allowable to disturb the bliss of a honeymoon, I should like to ask my esteemed friend, M. Jomard, to have the kindness to send me, for one of my experiments, the temperature of St. Joseph’s Well at Cairo. Kindest regards.’ This, no doubt, refers to the remarkable well in the citadel of Cairo, called Joseph’s Well, where water is raised at two stages from a depth of 277 feet.

The friendly footing on which he stood to the brothers Champollion was often the ground for mutual acts of courtesy. ‘You know,’ he writes to one of them,¹ ‘how greatly I revere your name, and appreciate the illustrious position won by your noble father. . . . It would afford me much gratification if you would lend the splendour of your name to secure the election, as one of the corresponding members of your Academy, of M. Lepsius—now conducting our expedition in Egypt—who has always shown himself devoted to your interests. My sovereign, who has a high personal regard for Lepsius, would be gratified by his receiving such an honour. . . . You and your brother may be almost said to constitute a new Egyptian

¹ De la Roquette, vol. ii. pp. 261, 286.

dynasty, without whom nothing should be accomplished that is connected with a realm that you have so successfully explored.' Favours solicited with so much amiability were rarely denied to the importunate pleader.

Humboldt's letters to Letronne, whose lectures upon archæology he attended in Paris in the year 1831, may be regarded as some of the most beautiful specimens of intellectual writing to be met with among the casual productions of a great mind; they contain short but important treatises upon historical and geographical subjects, and are replete with brilliant ideas, wit, and sarcasm, to which the one letter written upon the death of his beloved brother affords a touching and melancholy contrast.

That Humboldt should have felt attracted towards these eminent Egyptian antiquaries will be no subject of surprise when we remember how nearly Egypt, instead of South America, had been the field of his explorations. We are not, however, to suppose that the interest he manifested in ancient Egypt was not extended to other nations and other epochs in the history of art. He displayed an equal interest in Greece and Italy, and was alike attracted by the productions of modern genius. His familiar acquaintance with architecture in its various styles is shown in his correspondence with Hittorff, an architect from Cologne, who became so enamoured of Paris as to make it his residence, and was employed in the construction of some of the imposing buildings of the empire.

It will easily be understood that an industry so comprehensive as that displayed by Humboldt could only be attained by the most systematic employment of time; and, indeed, throughout his whole life, wherever practicable, he adhered to the same daily routine. He rose before eight in the morning; at eight, when in Paris, he usually went to visit his friend Arago, or repaired to the Institute, where he carried on his scientific work; between eleven and twelve o'clock he took a slight breakfast, and then resumed work till seven, the hour for dinner; after which the evenings up to midnight were devoted to the claims of society, and from twelve till two, or half-past two, he was again employed in study. To ensure freedom from interruption, he often selected for his abode outlying and unfrequented situations; in 1808 his letters are

dated from Rue de la Vieille Estrapade, No. 11 ; in 1809 from Rue St. Dominique d'Enfer, No. 20 ; in 1812 from Rue d'Enfer, No. 67 ; afterwards from the Hôtel d'Anjou, Rue des Francs-Bourgeois ; and in 1813 from Quai Malaquais, No. 3. When he came to reside at Berlin it was some time before he could accustom himself to the change of hours, and upon his return from a visit to Paris in 1835 he thus writes to Schumacher :—

‘Berlin: August 2, 1836.

‘I have been much refreshed and my health has greatly benefited by my visit to the modern Babylon, where I have again experienced how conducive to work is the custom that prevails there of dining late—now between seven and half-past seven—at least for those who, like myself, find even a breakfast of half a cup of black coffee—concentrated sunbeam, as old Delisle used to call it—almost more than they want during the day. I again adopted the plan of having two residences, sleeping in one and running off to work in the other at eight o'clock in the morning, before the enemy was up to seize me. My harbour of refuge was an inaccessible writing-room belonging to my friend Arago, in the entresol of the Institute. Accustomed at Berlin to receive visits only from such men of science as came on official business from the king or the ministers, and who, fearing to interrupt me, cut short every scientific conversation, I greatly enjoyed the stimulating society and facilities of work afforded me at Paris. I have at length succeeded in bringing out my “Examen critique,” a folio of seventy sheets. I spent several hours daily with Arago at the Observatory, and passed my evenings till two in society, besides being occupied in the absence of Baron Werther with some political business for the king, which you may possibly have surmised from the report in the newspapers of my frequent visits to the Tuileries.’

A graphic description of Humboldt's daily routine is furnished by Karl Vogt,¹ which, although referring to a later epoch (1845), is almost equally applicable to the period now before us. ‘The early morning hours from eight till eleven are his garret hours, spent in poking about the nooks and

¹ ‘Gartenlaube,’ 1870, No. 1 and 2.

corners of Paris, climbing into all the attics of the Quartier Latin, searching out half-starved enthusiasts, or young students of science occupied with some special investigation. . . . At eleven he breakfasts in the Café Procope, near the Odéon, at the left-hand corner, by the window. . . . around him cluster an admiring crowd. The afternoon he spends in Mignet's study at the Bibliothèque Richelieu. As Mignet never works at all, and Humboldt works a great deal, the former vacates his study during Humboldt's visit. Both the library and the attendants are entirely at his disposal. None but academicians enter unannounced, others only by appointment. . . . He dines at a different place every day, but always with friends and never at an hotel or restaurant. Between ourselves, he is a great talker. He tells a story well, discourses with much wit and intelligence, so that it is a pleasure to listen to him. No Frenchman has more *esprit*. He never sits long after dinner—half an hour at the most—and then he takes his leave. He goes at least to five receptions every evening, and on each occasion relates the same incidents with variations. After he has talked for about half an hour, he rises, makes a bow, and then retiring with some one into a recess for a few minutes' whispered conversation, he slips away quietly to the door. His carriage waits below. At midnight he drives home.'

Quetelet, who visited Paris in 1822 for the purpose of completing his astronomical studies, found Humboldt living near the Pont Neuf, opposite the Hôtel des Monnaies, and occupying commodious apartments though in an upper story. At his first visit he failed to meet with him, and after many fruitless efforts to find him at home, he received at length from Humboldt—who always wished to know beforehand who were going to visit him—a very gracious invitation.

'I did not fail,' he remarks in his 'Notices sur le Baron F. A. H. de Humboldt' (Brussels, 1860), 'to accept this invitation, and had reason to congratulate myself upon so doing, for the illustrious physicist took me to the Institute, which I had not previously visited, and introduced me to his friends. An introduction from him would have rendered every other superfluous, even had I possessed any.'

‘Notwithstanding the distance from the Observatory,’ relates Quetelet further, ‘Humboldt often went there to enjoy the society of his friend Arago, with whom he discussed various scientific subjects. Their intercourse, however, was not always of the smoothest character, occasionally it was so energetic that one or other of these illustrious philosophers would take himself off, sulking like a child.’ . . . ‘It was related to me by Arago that on one occasion Humboldt took his departure in such a state of anger and impatience, that in his haste he forgot to take up his hat. Arago followed him, begging him at least not to go uncovered. Humboldt’s refusal led to Arago’s further entreaties, until at length the discussion ended in a burst of laughter, and in Humboldt putting on his hat.’

In evening society his conversation was lively, often conducted in a loud key, and frequently sarcastic.¹ When the large telescope by Lerebours and Cauchoix was first erected at the Observatory of Paris, Humboldt made repeated trials of the instrument, frequently continuing his observations till past midnight, when Quetelet was occasionally privileged to accompany him home. ‘It was under circumstances of this agreeable character that I formed the acquaintance of this eminent man of science, of whom I shall ever retain a grateful remembrance. Availing myself of his generous offers, I have frequently solicited for other youthful students in science the same kind assistance which he rendered to me, and never have my hopes been disappointed, but rather in many instances have they been more than fulfilled, by a care and delicacy of attention I could never have expected.’ The testimony thus borne by the director

¹ Quetelet relates:—‘At a reception one evening, where he had been entertaining the company by his witticisms not only upon social incidents, but upon the guests who had recently left the room, it was noticed that a young lady of elegant appearance, who had risen to take leave, paused in her intention, and at length resumed her seat with some manifestations of impatience. To the hostess, who advanced to enquire the cause of her uneasiness, she replied: “Oh! I will never leave as long as that gentleman remains; I should not like to be the object of his remarks.” This incident was related to me by Arago, who laughed as he added that he had often teased his friend by reminding him of the circumstance. “Besides,” he remarked, “when once in this humour, he is no more sparing of himself than he is of others.” It is unnecessary to add that his jokes were always free from any tinge of malevolence.’

of the Brussels Observatory has been substantiated by many other learned men.

During a visit to Paris in February 1812, Dorow,¹ one of the secretaries under Hardenberg's administration, was introduced to Baron Alexander von Humboldt by Herr von Crusemark, and was much gratified by the kind and amiable reception he met with: a few days after, Humboldt took him to one of the private sittings of the Institute. . . . 'It was to a German highly gratifying to witness the marked attention he received from everyone. Among those who hastened to greet him were Carnot, Laplace, Cuvier, Lagrange, Rumford, Berthollet, and Benjamin Franklin.'² . . . Among the brightest recollections that Dorow retained of his visit to Paris, ever remained the kind reception accorded to him by Humboldt, and the many happy hours he was privileged to spend in his society. 'Humboldt was one of those scientific men, so rarely to be met with, who are ever ready to devote themselves to younger men, in order to show them the best mode of acquiring all that is most worth knowing. . . . Humboldt will never leave Paris of his own accord; nowhere else can such a man exercise his powers to full advantage, there only can he carry his fame untarnished to the grave. Of this he seems to be aware, for only in *this* city of the world does he feel himself perfectly at home.'

In December 1812, shortly before Dorow's departure, Humboldt wrote to him:—

'In a few days there will be published three more parts of my zoology and botany. I am overwhelmed with correcting the press; I work in an out-of-the-way part of the town; the death of Willdenow has plunged me in fresh embarrassment, and this is the reason why I have admitted no one during the last few days. Forgive me for not coming to see you yesterday. The indescribable contrarieties in my work, together with my melancholy mood, often render me quite averse to society.'

Humboldt was often able to render valuable service to

¹ Dorow, 'Erlebtes aus den Jahren 1790-1827' (Leipzig, 1845), vol. iii. pp. 91, 92.

² This cannot be the renowned Benjamin Franklin, who died in the year 1799.—EDITOR.

Germans, whether resident in Paris or occasional visitors. The patronage he accorded to his countrymen of distinction is manifest by his attendance when past the age of sixty upon the lectures on ancient and modern Greek delivered in Paris by Professor Haase, of Breslau, and by obtaining for Klaproth, the well-known Chinese scholar, from whom he received instruction in the Asiatic languages, a grant of 40,000 francs from the court of Berlin, in aid of the publication of his works on Chinese.

Humboldt often introduced his fellow-countrymen to the statesmen and men of distinction with whom he had made acquaintance at Paris, and ever showed himself ready to furnish them with counsel and assistance. To Olbers, the celebrated physician and astronomer, who visited Paris in 1811 as a delegate from Bremen, he displayed great hospitality, and procured for him numerous invitations. When the distinguished lawyer, Eduard Gans,¹ to whom reference has been frequently made in these pages, paid a visit to Paris in 1825, he at once sought out Humboldt, to whom he had letters of recommendation from Prince Wittgenstein and the minister Von Altenstein, and by whom he was introduced to Cuvier, Gérard, and others. Gans remarks :—‘ This eminent man seemed only to value his world-wide celebrity for the power it gave him in assisting his fellow-countrymen and in guiding them in the choice of their sphere of labour. Never has so deep and comprehensive an acquaintance with science been united to so much kind feeling and readiness to devote time and attention to the advantage of others, as in the case of this illustrious philosopher, who, in addition, possessed that intimate knowledge of everything lying beyond the ordinary range of science which seems possible only to the German mind.’

For zealous students of science Humboldt had always a ready welcome. From many among his compatriots have we heard the recital of their first introduction to him, and of the inalienable regard which they formed for him even in the early stages of their intercourse.

Heinrich Berghaus, who accompanied the allied armies on their second entrance into Paris in 1815, eagerly sought an

¹ Gans, ‘ Rückblicke auf Personen und Zustände ’ (Berlin, 1836), p. 4.

interview with his distinguished compatriot, of which he has given the following account in his introduction to the '*Briefwechsel mit Alexander von Humboldt*.' 'There is one to whom I must present you,' remarked General von Müffling to Berghaus on August 17, 1815, 'and he, too, is a fellow-countryman. From him you will get other introductions. Come again into town early to-morrow morning.' At seven o'clock the next morning—it was the 18th of August—Berghaus presented himself at the quarters of the Prussian commander-in-chief, and received from Müffling, who was unable to accompany him, a note addressed 'A Monsieur le Baron Alexandre de Humboldt,' which secured his admission to the great philosopher. 'My personal acquaintance with Humboldt dates therefore from my visit to Paris in 1815. . . . I was privileged to enjoy his favour and patronage till the time of his death—a period of forty-four years.'

Of still greater interest is the narrative of Liebig's introduction to Humboldt, which is thus described in the Preface, wherein he dedicates his celebrated work to Humboldt: '—

'During my residence in Paris, I gave a course of lectures at the Academy in the winter of 1823–4 upon an analytic investigation of Howard's fulminating mercury and silver—my first effort in the field of science.

'At the close of the sitting of March 22, 1824, while busy packing up my apparatus, a gentleman came up to me from among a group of academicians, and entered into conversation. In the most winning manner, he made enquiry as to the objects of my study, my present occupations, and the plans I had laid for the future. We separated without my knowing to whom I was indebted for this kind expression of interest, for my shyness and inexperience had not allowed me to make the enquiry.

'This conversation laid the foundation of my future career, for I thus acquired a kind friend and a powerful patron in my scientific undertakings.

'You had returned only the day before from a journey to Italy, and no one had been informed of your arrival.

¹ '*Die organische Chemie in ihrer Anwendung auf Agricultur und Physiologie*' (1st edit. Brunswick, 1840).

‘As for me, a stranger without introductions in a city where the confluence of so many men of distinction from all parts of the world forms the greatest barrier to making personal acquaintance with the celebrated men of learning and science there assembled, I should most probably have remained, as so many others have done, lost in the vast crowd, and perhaps there have perished, had you not once for all rescued me from such a danger.

‘From that time all doors were thrown open to me, I had access to every institution and every laboratory; the great interest you took in me procured me the love and intimate friendship of my instructors, Gay-Lussac, Dulong, and Thénard, to all of whom I became deeply attached. The confidence which you accorded me was the means of my introduction into a sphere of labour which during the last sixteen years it has ever been my ambition worthily to occupy.

‘How many others am I acquainted with, who, like myself, are indebted to your kindness and protection for the opportunity of prosecuting the schemes they had formed for the advancement of science. The chemist, the botanist, the physicist, the oriental scholar, the eastern traveller, the artist—all have shared equally the privilege of your interest and patronage; with you there was never any distinction of nation or country. The obligations you have in this way rendered to science do not come before the notice of the world, but they will ever remain deeply engraven upon the hearts of all whom you have befriended.

‘It is a pleasure to me thus to express publicly the feelings of deep veneration and heartfelt gratitude with which you have inspired me.

‘Of the little work that I have taken the liberty to dedicate to you, I scarcely know whether I can claim any portion as my own; when I read the introduction written by you, forty-two years ago, to the work by J. Ingenhousz on “The Nutrient of Plants,” it appears to me as if I had but carried out and exemplified the ideas which were there first advanced by one who has ever been the sincere friend of all that is noble, beautiful, and true, by one who has proved himself to be the most zealous and industrious investigator of this century.’

In a similar manner Humboldt took Dirichlet by the hand. He introduced him to Arago in 1825, gave him a recommendation to Sturm, and endeavoured, through the minister Von Altenstein, to obtain for him employment in Prussia. In 1826 he informed Dirichlet that his efforts on his behalf were likely soon to be successful, and during a visit to Berlin in the same year Humboldt obtained by his personal influence the appointment of Dirichlet as Professor Extraordinary at the University of Breslau. He recommended him to pass through Berlin on his way to Breslau, where he was by no means to omit seeing Eytelwein, Nicolovius, Savigny, and Encke, and shortly after wrote to say he hoped soon to see him appointed at Berlin.

Great exertions too were made by Humboldt to secure to Malte-Brun, a native of Denmark and an exile from his country, a just appreciation by the men of science in Paris. He introduced him to Laplace, gained for him the acquaintance of Leopold von Buch, and Lewy, the English geographer, and placed him in communication with the editors of several of the scientific periodicals of Germany.

Even while in Paris he neglected no opportunity of furthering the interests of young students of science in his native country. He was one of the first to recognise the mathematical genius of Gauss, and although William von Humboldt failed to obtain his appointment to the proposed university of Berlin, Alexander continued to interest himself unremittingly on his behalf. In dedicating the fourth part of his great work, which was edited principally by Oltmanns, to Gauss and Zach, Humboldt remarks:—‘Separated as I have been for so many years from my native land, and busy as I now am with preparations for another expedition, I have not grown so indifferent to the glory of Germany as not to have indulged in a feeling of exultation over the great work you have so happily accomplished. On my return to Europe, the first and only request I ventured to make to the King of Prussia was on your behalf. It is from no want of effort on my part that you are not now in the enjoyment of a brilliant position in my native city.’

Many other instances might be adduced of the kind interest Humboldt took in all zealous labourers in the field of science.

Of the liberal patronage he accorded to artists, the following communications in reference to Steuben, a German painter, give ample proof.

As a means of bringing him into notice, Humboldt commissioned him to paint his portrait, and writes as follows to his sister-in-law under date of August 24, 1813: 'I am preparing you a present, my dear sister, with which I am sure you will be gratified—a full-length portrait of myself from tip to toe, a speaking likeness, and painted in the noblest and simplest style of art under the auspices of Gérard, by Karl von Steuben, a German artist. It is still a long way from completion. This is the same young artist for whose talent Caroline von Wolzogen had so high an appreciation, and who made you a copy of *La Belle Ferronnière*. You must not, however, judge of his capabilities by that work, which was executed four years ago; for since then he has made great progress. My picture measures nine feet in height, and will be quite an heir-loom. I am getting older and older, but if I am ever to be painted with snowy locks I must wait still longer. I have been drawing and painting daily with young Steuben for the last fourteen months, and this has been my pleasantest occupation.'

Upon another occasion he writes to his sister-in-law:—'The young man supports his widowed mother in St. Petersburg by the sale of his pictures; she is in circumstances of great poverty and needs assistance. I am therefore entrusting to you the enclosed remittance from her son to be forwarded to St. Petersburg.'

Five years later he wrote to Baron von Stein, recommending his protégé in warm terms. The celebrity of this eminent statesman has induced us to insert the letter¹ in full:—

'Sir,—I have to-day received the letter with which your Excellency was pleased to honour me under date of February 23. I cannot express to you how highly I value this kind remembrance. Nothing will ever efface from my mind the grateful feelings with which your kind indulgence inspired me when I was first entering the world. I shall be happy to render to the Prince von Neuwied, and the editor of his important work,

¹ Pertz, '*Das Leben des Ministers Freiherrn von Stein*,' vol. vi. Suppl. 197.

all the services that lie within my power. I had the pleasure of seeing the prince before his departure, and I was charmed by his modesty, the wide range of his knowledge, and his manly courage, so indispensable to the success of a long and arduous expedition. The prince was kind enough to send me some *melastomæ* and *rhexas* from Brazil, and I intend asking his permission to present him with a copy of the work which I am now publishing conjointly with Herr Kunth, and which will consist of five folio volumes containing 3,000 new species. These are the only gifts that a poor traveller from the Orinoco has power to bestow.

‘ Since your Excellency has done me the honour to peruse my “*Relation historique*,” I feel that I need not call your attention to the last volume, which contains some details of interest upon the missions, the dialects of the Indian races, and the political condition of various parts of America. It may perhaps not be superfluous to bring before your notice my little treatise upon isothermal lines, and my new theory upon the distribution of heat over the globe. It is a method of treating climatology which has been favourably received both here and in England. I shall have great pleasure in sending you this little book if you will kindly give me the name of your agent here, for it is not worth the cost of postage.

• Steuben, the young artist to whom you have shown so much kindness, has developed an extraordinary degree of talent. His new altar-piece, representing the Bishop of St. Germain distributing alms from a plate held by King Chilperic, is admirable both in colour and expression. Unfortunately this is a style of painting which adds more to the fame of the artist than to his means of livelihood. For this young man I earnestly crave of your Excellency recommendations to those of your friends who intend visiting Paris, and who may wish to engage the services of a successful portrait-painter. Perhaps also you may find employment for Herr Steuben, in the decoration of the churches in your neighbourhood, or in the embellishment of your own château; should you send him a commission for an historical picture of which the subject might either be scriptural or some heroic event in the history of our Father-

land, he would send you a design sketched in colours. He still continues to reside with M. Gérard.

‘My letter is long, and I fear somewhat indiscreet. Pray forgive my importunities, and accept the expression of my gratitude and respectful attachment.

• A. HUMBOLDT.

‘Paris: February 20th, 1818, Quai de l’École Nr. 26.’

Many years after, in 1837, he thus writes to solicit Frau von Wolzogen to introduce Steuben to the notice of the Duchess of Orleans, formerly Princess Helena of Mecklenburg:—‘Could you avail yourself of the confidential relationship in which you stand to the princess, to interest her in Steuben so as possibly to ensure his good fortune? Good fortune in Paris means the patronage which may be bestowed upon him by the new princess royal. He has painted some beautiful female portraits, life size. He has been occasionally employed at court, and is personally known to the king; but there seems to be a decided prejudice in favour of Horace Vernet, Scheffer, and Laroche, who, after the manner of artists, view Steuben in no favourable light.’

In describing Humboldt’s sojourn in Paris, we have endeavoured first to depict the man of science labouring indefatigably in association with his sympathetic friends, and next to present some of the characteristic features of heart and mind by which he was distinguished in social life. It now only remains for us to give in chronological order an outline of the events of this portion of his career.

Although the work on America, this ‘*interminable voyage*,’ was yet far from completion, Humboldt continued to occupy himself with plans for a scientific expedition through the vast continent of Asia, the accomplishment of which he regarded as the second great task of his life. With the aid of the distinguished oriental scholars Silvestre de Sacy and André de Nerciat, he undertook the study of the Persian language as one of the easiest of the eastern tongues; and, as early as 1810, a year marked by the opening of the University of Berlin, he decided to join an expedition to Upper India, the Himalayas, and Thibet, which was being organised at the instance of the

Russian Minister, Romanzow. In 1811, he paid a farewell visit to his brother at Vienna. The scheme, however, was suddenly relinquished on the part of Russia, and the expedition for which Humboldt had equipped himself with so much diligence was never carried out.

On his return to Paris, he was deeply moved by the intelligence of an appalling event that had taken place in the New World; the town of Caracas, where he and Bonpland had spent two months, in the enjoyment of so much generous hospitality, had been destroyed on March 26, 1812, by a fearful earthquake, in which nearly ten thousand persons lost their lives, by the overthrow of the houses, and the falling in of the roofs of the churches during the hours of divine service. Full of grief and sympathy, he exclaimed: 'Our kind friends have perished, the house in which we lived is now but a heap of ruins; the town of which I wrote a description no longer exists!'

In 1812, a new expedition was projected by Russia, in which Humboldt was invited by the Emperor Alexander to take part. From Siberia the travellers were to proceed, through Kashgar and Yarkend, to the elevated plains of Thibet. Napoleon's campaign against Russia, however, frustrated this scheme, and the plan was suddenly abandoned.

Then came the eventful year of 1813. While the Russians were in Paris, Humboldt availed himself of his international position to protect the valuable scientific collections at the Jardin des Plantes, which, but for his exertions, would probably have been either dispersed or destroyed. Even so late as 1858, in a letter dated November 26, Valenciennes thus apostrophises him: '—You, to whom we are indebted for the preservation of the Museum of Natural History during the invasion of the Cossacks.'

On March 31, 1814, the King of Prussia, Frederick William III., entered Paris at the head of his troops. On the following day he sent for Humboldt, who, from his intimate acquaintance with Paris, could serve as an efficient cicerone in visiting the places of interest. The king took so much pleasure in his

¹ Found among Humboldt's papers, now in possession of the Editor.

society, that on one occasion, while enjoying a morning walk with him at the Jardin des Plantes, he declined to interrupt the conversation when informed that General York requested an audience.¹ By an order in council of May 16, 1816, the sum of 1,500 thalers was granted to Humboldt in acknowledgment of the demands that had been made upon his time while in attendance upon the king in Paris. Upon the entrance of the allied army into Paris, William von Humboldt arrived as Minister Plenipotentiary—an appointment he had received in acknowledgment of the services he had rendered, when Ambassador at Vienna, in bringing to a successful issue a difficult complication of affairs.

In June of the same year, the Emperor of Russia and the King of Prussia paid a visit to London. Both the brothers Humboldt accompanied their sovereign on this occasion; and Alexander availed himself of the opportunity to make the acquaintance of the most eminent men of science in England, for he had not visited this country since 1790. While travelling on that occasion with George Forster, Humboldt obtained permission to make use of the library of the eminent chemist and philosopher Henry Cavendish, second son of the Duke of Devonshire; on condition, however, that he was on no account to presume so far as to speak to, or even to greet, the proud and aristocratic owner should he happen to encounter him. Humboldt relates this in a letter to Bunsen, adding sarcastically: 'Cavendish little suspected at that time that it was I who in 1810 was to be his successor at the Academy of Sciences.'²

On the conclusion of the second peace of Paris, William von Humboldt, who had been associated with Hardenberg in the negotiation, was selected by him for the post of Ambassador to Paris, but, upon the representation of the French Minister Richelieu that such an appointment was not likely to prove acceptable, Hardenberg offered it to Alexander. This honour

¹ Droysen, 'Das Leben des Grafen York,' &c. (Berlin, 1854), vol. iii. p. 304.

[² Henry Cavendish was grandson to the Duke of Devonshire, being the younger son of Lord Charles Cavendish, second son of William, second Duke of Devonshire. The apparent incivility of which Humboldt complains arose doubtless from the extremely eccentric habits of this noted philosopher.]

was, however, declined by Humboldt in the same decided manner as all similar proposals. William became subsequently a member of the Commission convened at Frankfort for the purpose of carrying out a division of territory among the princes of Germany; and he drew up a provisional arrangement for the conduct of the business of the Diet, remaining till the opening of the session. In 1817, he received the appointment of Ambassador to England, and in October of the same year Alexander paid him a short visit at his residence in London.

In September, 1818, Humboldt visited England, accompanied by Valenciennes and Arago. The object of his visit was to collect materials for a work on the Political Condition of the South American Colonies, which he had been requested to undertake by the Allied Powers. His stay in London was unexpectedly curtailed, for a few days after his arrival he was summoned to attend King Frederick William III. at the Congress of Aix-la-Chapelle, where, in obedience to his sovereign's command, he arrived on October 13. On November 5, he was joined by William von Humboldt, who had been recalled from London to take office in the Home Government, in which he the following year received the appointment of Minister of the Interior.

It was during this visit to Aix-la-Chapelle that Humboldt received from the king ample means for the prosecution of an expedition into Asia—the third project of the kind that had to be abandoned through the unfavourable juncture of political events.

In the beginning of November, Humboldt returned to Paris. He resumed the labours which had been suspended during his absence, attended lectures, and himself delivered a course in French on Physical Geography.¹

He was again summoned, in the autumn of 1822, to attend King Frederick William III. at the Congress of Verona. From Verona he accompanied the king to Rome and Naples, where, between November 22 and December 1, he made three ascents of Vesuvius, and repeated the measures taken on August 12, 1805, with Gay-Lussac and Leopold von Buch.

¹ 'Kosmos,' vol. i. Preface, p. ix.

Humboldt remained in attendance on the king throughout the journey, accompanying him to Berlin by way of the Tyrol and Bohemia. He had not seen his native city since the year 1807, and he received the most gratifying attentions from his numerous friends during the few months of his stay. He particularly enjoyed intercourse with his brother William, who was now living in retirement at the family residence at Tegel, in the improvement and adornment of which he took the greatest interest. At a meeting of the Academy of Sciences, on January 23, 1823, Humboldt gave a lecture upon 'the Formation and Action of Volcanoes in various parts of the Globe,' suggested by the investigations he had made at Vesuvius. The unfinished condition of his great work called him again to Paris, where he spent three years in uninterrupted labour, enlivened by the society of the eminent men of science congregated in the French capital.

At length, at the renewed instance of the king, he determined to leave Paris and take up his residence at Berlin. Towards the close of 1826, he entered upon preliminary arrangements, returning to Paris for a short while, to superintend the packing up of his instruments and collections, and to take leave of his friends; to whom he was glad to be able to hold out the prospect of a speedy reunion, since he had received permission to revisit Paris at stated intervals.

In February, 1827, he bade adieu to Paris, and started for London in company with Baron von Bülow, recently appointed Ambassador at the Court of St. James's, who, in 1821, had married Humboldt's niece Gabriele. From England he proceeded by way of Hamburg to Berlin, where he arrived in April, henceforth to live and work in happy union with the brother to whom he was so strongly attached.

He continued to regard Paris as the true metropolis of science, where he never failed to meet with subjects suited to the grasp of his mighty intellect, and where he ever found a stimulus to labour. So late as 1847, at the age of 78, he wrote to Bunsen from Berlin in prospect of a visit to Arago: — 'My visit to Paris will not only afford me some amount of necessary relaxation, for here I am the most besieged inquiry-office in the country, but it will also supply me with

the means of collecting facts and ideas for the third and last volume of "Cosmos." I shall remain till the end of the year. The king is not willing I should be longer absent! He shows me much friendship, which greatly touches me—me, an old man who began life in 1769.'

The period of Humboldt's life which we now bring to a close—the eighteen years included between 1808–1826—may be briefly characterised as *a time of unobtrusive industry in a foreign country, which, succeeding to years of study and travel, was to be followed by the most important epoch of his life passed in his native city.*

IV.

ALEXANDER VON HUMBOLDT:

THE MERIDIAN AND DECLINE OF LIFE.

BERLIN, 1827-1859.

BY

ALFRED DOVE.



Γηρόσκω δ' αἰεὶ πολλὰ διδασκόμενος.—Σόλων.

CHAPTER I.

RESIDENCE AT BERLIN TO THE REVOLUTION OF JULY.

Observations upon the Advance of Age—Impossibility of preserving a strict Chronological Order—Reasons for a Change of Residence—The Berlin of 1827 contrasted with Paris—The State of Scientific Culture at Berlin—Preliminary Visit in the Autumn of 1820—Final Settlement in his native City—New Position at Court and in Society; Activity in various Departments of Science—Lectures upon Physical Geography; their Significance and Connection with 'Cosmos'—Meeting of the Scientific Association in 1828—Humboldt and Gauss—Magnetic Observations and other Scientific Labours—The Asiatic Expedition—Intercourse with his Brother's Family.

THE closing period of the life of Alexander von Humboldt was passed, with but few interruptions, amid the surroundings of his German home. On May 12, 1827, he took up his permanent residence in Berlin, and on May 6, 1859, he breathed his last in the city which had given him birth.

Although at the time of his return to his native country Humboldt was in the vigorous exercise of all his powers—the sixtieth anniversary of his birth, September 14, 1829, was passed while encountering the fatigues of the Asiatic expedition—and although he was still in possession of that remarkable energy which remained unimpaired to the end, we might perhaps have been justified in designating the whole of this period as that of old age. From the time that he had passed his sixtieth year he was accustomed to consider himself an old man, and in his letters frequently referred to himself facetiously as 'antediluvian.' The almost infinite variety of impressions received during his extended travels, the vast range of knowledge which, from earliest youth, he had been unceasingly acquiring, the prodigious revolutions in the social and political world, in which, though taking no active part,

he had by no means been an indifferent spectator—all faithfully preserved in a retentive memory, must prematurely have impressed him, earnestly as he may have struggled against it, with the feeling of having belonged to a bygone age. As years passed away, he alludes more frequently to his gradual ‘petrification,’ though always in that peculiar tone of irony with which he was accustomed to speak of everything, whether of praise or blame, that had reference to himself; with increasing frequency he refers to the grand historical epochs through which in his younger days he had lived, painfully conscious of the contrast afforded by the present with the past, until towards the close of life, half in pride and half in humility, his favourite expression in speaking of himself became ‘the primeval man.’

But there is yet another consideration, which may serve to render the important section in the biography of our hero upon which we are now entering still more emphatically the period of old age. Henceforth he was to lead a life of contemplation in comparative tranquillity. The career which hitherto he had loved to call ‘eventful’ became in the future almost a monotonous existence. Even the great expedition into Asia, which presented the first interruption to his settled home-life in Europe, appears, in comparison with his wanderings in America, only as a brief excursion. After his return he was led, both by duty and inclination, occasionally to revisit Paris; the exciting stimulus of the society he enjoyed there being almost indispensable to him amid the dull uniformity of his home-life. But even these journeys ceased at last—it is unnecessary to allude to any others—and his movements became restricted to those of the court, which, with ever-increasing regularity, ‘oscillated like a pendulum’ between Berlin and Potsdam, while the days, passed in work and conversation, became more and more the one like the other.

As an inevitable consequence, his mental activity became year by year more concentrated, more peaceful, more contemplative; until at length, from the summit as it were of human existence, to which he had by unwearied struggles attained, he calmly watched the course of scientific inquiry. It is true that he rejoiced at every new ray of light which shed its

radiance upon any of the hitherto unilluminated paths of science, but he rejoiced only in the character of an interested spectator; to him pre-eminently belonged the task of skilfully arranging into an imposing panorama the comprehensive views of nature which, from his high stand-point, he almost exclusively enjoyed. After an attentive survey of his multifarious labours, it is obvious that Humboldt's most valuable scientific achievements were accomplished during his early years, and that at a later period his productive activity was superseded by a no less remarkable perceptive apprehension of Nature in all her phenomena. He became increasingly the ideal representative of scientific progress, even in the details of close investigation, while at an earlier period he had often been a leader in the path of inquiry.

In this fact lies the significance of the latter portion of his life. It is precisely as the representative of the scientific knowledge of the age that he was so highly valued by his contemporaries; the honours profusely showered upon the author of 'Cosmos' may after all be regarded merely as the homage offered by the men of the nineteenth century, proud of the grand achievements of modern science, to their own comprehensive genius impersonated in a manner not granted to every age, in a living representative gifted with a mind alike distinguished for power of arrangement and universality of comprehension. If it be true that 'man wanders among the departed in the same form in which he leaves this earth,' then at the name of Humboldt the image of the author of 'Cosmos' would rise before the mind as that of a venerable man, with head inclined and deeply furrowed brow, bearing upon his shoulders, after the manner of Atlas, the burden of the Universe—a strange creation, the full significance of which he only could estimate, since he alone had proved it by experience.¹

If on this account the closing period of the life of Alexander von Humboldt presents a subject equally worthy of our contemplation with that of his youth or manhood, it will at once be evident that the mode of treatment must assume a very

¹ A well-known drawing by Kaulbach, though unfortunately somewhat of a caricature, brings out in an ingenious manner this resemblance in the venerable Humboldt to Atlas, the supporter of the Universe.

different character. For where there are no events to narrate, history has lost her office; to chronicle inaction is simply an absurdity. In the period now before us, we have but few marked epochs to assist us in the arrangement of our subject; namely, the Revolution of July, the Accession of Frederick William IV. in 1840, and the stirring events of the Revolution of 1848. Yet the few years occupied in the transition from a life of activity to one of retirement—that is to say, the years included between the autumn of 1826 and the summer of 1830—call for a bolder treatment and greater minuteness of detail, inasmuch as, unlike the nine months' expedition into Asia, it is a period that has never yet been fully depicted.

The change of residence from Paris to Berlin has not unfrequently been represented as a voluntary act on the part of Humboldt, to account for which he has been supposed to have had the impression, if not the clear conviction, that the concluding work of his life could best be accomplished amid the surroundings of his own home, and 'that the production of "Cosmos" was possible only upon the intellectual soil of Germany.' But this view, although it has arisen from a correct appreciation of the connection between the activity of his latter years and the circumstances by which he was then surrounded, will not stand close investigation; for at the time of his arrival at Berlin he had formed no very distinct conception of his future sphere of labour. If we seek for the true motive of his return, we shall find it in the exhaustive answer he himself gives in the autographic notice he furnished for the 'Conversations-Lexikon':—'The wish of the king to retain Humboldt in his vicinity, and secure his permanent settlement in his native country, was not realised until the spring of 1827.'

In point of fact, the cause of this important change in Humboldt's mode of life is not to be found in any wish of his own, but in the earnest desire of his sovereign, Frederick William III. The limited range of the king's intellectual powers did not prevent him from appreciating genius in others, nor from manifesting, as opportunity served, gratifying recognition of superior talent. We have seen how he sought to distinguish Humboldt from the first moment of his return to Europe. The grant of a considerable pension, and the appointment to the

office of chamberlain, were undoubtedly meant as inducements to enter the service of his sovereign as well as that of his country, for to the royal mind there was but small distinction between the two. The strong sense of duty inherent in Frederick William led him to expect from others services which should be in some degree proportionate to the privileges they enjoyed. The practical tone of his mind would not allow him to view Humboldt's protracted absence, though freely admitting its necessity for the publication of his great work, in any other light than as a leave of absence granted to his chamberlain, which he had on many occasions generously renewed and graciously facilitated. When once the necessity was removed, it appeared to the king as a matter of course that a power emanating from Prussia and sustained by himself should exclusively belong to him and to his country. Moreover, Humboldt was doubtless an agreeable companion to the king, who, as is well known, was ever attracted towards those whose docile and pliant dispositions caused him to feel least the oppression of his own shy embarrassment. That Humboldt's character was of this nature he had received many proofs, not only in Paris and at Aix-la-Chapelle, but during the journey to England and Italy. Humboldt on his part was far from being in a position seriously to oppose the express wish of the king, for, since expending his own fortune upon the publication of his great work, he was wholly dependent upon the pension and liberality of his sovereign. The repetition of generous gifts, from a monarch who exercised in other matters a somewhat rigorous economy, cemented no doubt a bond of gratitude which Humboldt would have been scarcely disposed to break, even had the dissolution of such a tie lain within his power. There is, however, no reason to suppose that he would have viewed the severance of this bond as a matter for congratulation. Throughout the remainder of this biography, it will be evident that, keenly as he felt the constraint of his position at court, of which he frequently made bitter complaints, yet the intimate relationships which he was able to maintain by this means with the highest circles of the land became to him a second nature, almost a necessity. Nor was he even at this epoch indifferent to the favour of the king, any more than

he ever was completely indifferent to the good will of any one. But he could have wished to have been able to enjoy it longer while resident at Paris, and to have paid only occasional short visits to his native country.

After all that may be said there can be no doubt that the thought of permanently quitting Paris and making Berlin his future home must have been, to him, extremely distasteful. A frank disclosure of his feelings on this occasion is furnished us in the laconic statements of his fragmentary autobiography. Maintaining an eloquent silence upon aught else, he makes sole mention, in reference to his return to Berlin, of 'the renewed pleasure, after so long an interval, of residing with his brother and uniting with him in scientific pursuits.' This was in fact almost the only attraction that a residence in Berlin had to offer him; in every other respect he knew that he should suffer loss.

The relative importance of Paris and Berlin in the present day affords very insufficient data for estimating their comparative importance at the time of Humboldt's arrival in his native city. In those days, visitors from Berlin described Paris as 'enormous,' 'a swarming labyrinth,' and in 1824 Karl Ritter expressed himself as rejoiced to 'turn his back upon it' and find himself once more in 'good old Berlin.' And so, he adds, thinks every German, Humboldt alone excepted, to whom Paris has become a second home.¹ No European city has risen so rapidly to the highest rank as Berlin; for this position has been acquired mainly during the last forty years. As a consequence of its rapid growth, there is even now much of a petty character traceable in its social relationships; certainly previous to 1830 it could scarcely be considered a great city in the modern acceptation of the term. Breslau as it now is surpasses the Berlin of those days; for though not perhaps excelling it in population, it is superior in the beauty and regularity of its buildings. Berlin was at that period undoubtedly a mean town, and houses such as those inhabited by the families of Mendelssohn and Beer stood almost in solitary grandeur. The introduction of a sheet of

¹ 'Karl Ritter; ein Lebensbild. Von G. Kramer' (2 Parts, Halle, 1864-1870), vol. ii. p. 183.

plate glass of but moderate dimensions into a window of the Royal Palace excited universal attention; it was unique in the city, and was reported to be a present from the Emperor of Russia.¹

Society was stirred only by interests of trifling moment. The influential circles breathed a purely political existence, and even the ordinary affairs of life were regulated according to the unalterable dictates of official routine. At the close of 1819, in consequence of the decrees of Carlsbad, a reactionary movement had taken place in the Home Government which resulted in the retirement of William von Humboldt, Beyne, and Boyen from the service of the State. Alexander, who fully sympathised with his brother's political sentiments, and theoretically even surpassed him in the liberality of his views, must have regarded the party thus brought into power with, if possible, less indulgence; personal intercourse with such a clique, made up entirely of sprigs of nobility and hereditary hangers-on of official life, could not but be highly distasteful to him, and yet, from his intimate connection with the court, this would seem almost unavoidable, while William, in the happy freedom of his voluntary retirement, could devote himself to his family and his pursuits. It is true that a retrograde movement had also set in at Paris, but this served only to develope with greater energy a tone of liberal thought among the homogeneous circles of the middle classes, with whom as a foreigner Humboldt moved with unrestrained freedom. That even in Berlin public and political events were not entirely excluded from discussion, Varnhagen's notes furnish abundant evidence. Setting aside the exaggerated expressions of such a writer, who, with the discontented feelings of wounded vanity, hears the *rust* of revolution growing where it had never even been sown, how despicable and insignificant seem the tactics of the opposition, how prejudiced the attacks, descending even to personalities, how puerile the expression of a dissatisfaction so universal in a witty sarcasm or the turn of a *bon mot*! In Paris, the easy flow of this kind of wit had always been accompanied by brilliant flights of intellectual converse. In

¹ 'Karl Ritter,' &c. vol. ii. p. 3.

order to appreciate the difference between a political condition that has long been matured and one that is in process of development, we have but to turn to the Berlin daily papers of that period, the 'Vossische' and the 'Spener'sche Zeitung'—the latter addressed to intellectual readers—conducted under strict censorship by editors in sympathy with the Government, and compare them with the six Parisian papers emanating from the Opposition, which in 1825 could boast of a circulation of 44,000, or four times that of the organs of Government.

It may be remembered too that this period was that known as the 'Sonntagszeit' in Berlin, when the presence of an amiable singer threw every subject of a more serious nature into the shade, and kept the whole city in an almost frantic state of boundless enthusiasm. 'It is quite shocking,' writes Bunsen on October 23, 1827, 'to see how the intellectual world of Berlin, with few exceptions, flocks to the Opera!'¹ Indeed, the interest manifested in the Opera so magnificently produced by Spontini far surpassed that evinced for the drama, for Berlin was at this period beginning to take rank as one of the foremost cities of the world in the patronage and encouragement of music. Though Hegel, with his enthusiasm for music, could describe with rapture the fresh delights he experienced at Berlin,² what attraction could such enjoyment offer to the Humboldts, for whom music, throughout life, possessed no charm? 'These brothers, O gemini! are indeed your twin brethren in the world of art,' bemoans Zelter in writing of them to Goethe; 'they are both so entirely devoid of any appreciation for music that I could make myself quite unhappy about them.'³

During this period, the intellectual life of the Prussian capital was confined almost exclusively to art and literature. At the head of the plastic art stood the unrivalled Schinkel, a devoted student of classic beauty; at the time of Humboldt's

¹ 'Chr. C. J. Freiherr von Bunsen. Aus seinen Briefen u.s.w. geschildert.' German edition, by F. Nippold (3 vols. Leipzig, 1868-1871), vol. i. p. 287.

² See Rosenkranz, 'Hegel's Leben; Supplement zu den Werken' (Berlin, 1844), p. 340, &c.

³ 'Briefwechsel zwischen Goethe und Zelter' (6 Parts, Berlin, 1833-1834), vol. iii. p. 340.

IV.

ALEXANDER VON HUMBOLDT:

THE MERIDIAN AND DECLINE OF LIFE.

BERLIN, 1827-1859.

BY

ALFRED DOVE.



Γηρόσκω δ' αἰεὶ πολλὰ διδασκόμενος.—Σόλων.

for the reading and discussion of the newest poetical effusions,¹ neither could he take any interest in the shallow criticisms on literature, art, and the stage, which abounded in the periodicals of the Berlin of that day. Accustomed as he was in conversation to express himself upon these subjects with a refined and discriminating criticism, he could never regard such discourse as worthy of the serious occupation of thoughtful minds. The 'Jahrbücher für wissenschaftliche Kritik,' commenced in 1826, must have been powerless to arouse his interest, since it emanated almost exclusively from the circle of literati gathered round Hegel.

Slight as was the attraction offered him by the elegant literature of the day, philosophy, in the form at least in which it was then popular at Berlin, could as little command his attention. Hegel was the ruling spirit of the age, and in saying this we have said everything. Humboldt, whose realistic method of viewing nature had been but little affected by the philosophy of Kant, although his mode of thought had doubtless been strengthened by that system, had no power of comprehension for the fantastic creations of Hegel's school of philosophy; his reasoning powers, founded upon the old-established principles of logic, had never yielded to the seductive charm of the dialectic method. Its scheme of Natural Philosophy, the weakest and at the same time the least original part of this otherwise intellectual system, was too irrational to permit of his sympathies being given to it as a whole. In view of these considerations, it is amusing to observe the expectations of sympathetic intercourse excited by his return in the circle of which Hegel was the centre.

In the second number of the 'Berliner Conversationsblatt für Poesie, Literatur und Kritik,' edited by Friedrich Förster and Wilhelm Häring (Willibald Alexis), published on January 2, 1827, it was thought that there could be 'no more worthy commencement' of its Chronicle of the Events of Berlin than the announcement that, upon the gracious invitation of his Majesty the King, Herr Alexander von Humboldt was about to change his residence from Paris to Berlin. Then followed

¹ See Karl von Holtei, 'Vierzig Jahre' (2nd edition), vol. iii. p. 224, &c.

an expression of regret that Paris hitherto 'had seemed to appropriate those great men upon whom Berlin possessed a peculiar claim, as though a man of distinguished genius could nowhere find a home save in the drawing-rooms of the Faubourg St. Germain; . . . but now that Berlin was beginning to form a centre for science and art, it would soon stand as closely associated with the rest of the world as either London or Paris.' The writer next proceeded to call attention to the riches of the Museum of Berlin, which are vaunted as not much inferior to the collections of other European capitals, and as even superior to most in mineralogy, owing to the 'collections from the Cordilleras' contributed by Humboldt. The passage concludes with the following profound observation, highly characteristic of this kind of pseudo-scientific journal:—'In science, as in politics, it is not the wealth of material that constitutes the value, but the intellectual power by which it is governed. In the study of Nature, Herr von Humboldt has from the first not directed his attention so much to her phenomena as a conglomerate mass of objects, but rather to the deep meaning of her inner life, and by him was first awakened in Germany the taste for natural philosophy. It is customary to hear his praises sounded for the intrepidity with which he ascended Chimborazo, and the resolution which enabled him to persevere when suffering alarming giddiness; but we accord him still higher praise for having climbed with Schelling and Hegel the heights of natural philosophy without succumbing, as so many empirics have done, to the bewildering effects of such an elevation. It is from these heights that Herr von Humboldt contemplates the world of nature; and whether in this kind of contemplation he is likely to find most sympathy in Berlin or Paris, there ought in his mind to be little doubt.'

It is certain that he must have experienced little doubt, on perusing this effusion of ignorance and folly, that he had no ground for anticipating any real sympathy in his scientific labours among a community who, blinded by the glitter of a false imagination, could accord him no higher place than that of a Steffens. A more reliable and at the same time a less self-sufficient kind of mental culture was that emanating from the

teachings of Schleiermacher, who by his writings, his personal character, and his pulpit ministrations, exercised a powerful influence over a promiscuous and influential, if not a very large section of the community. But even this healthier tone of thought failed to afford a soil much better prepared for the reception of scientific truth. Humboldt was by nature more allied to this school than to that of Hegel. There was much to attract him in its benevolent sentiments, conveyed in the language of subtle reasoning, sparkling with flashes of intellectual power; but to him the manner in which pure worldly matter-of-fact views were combined with the sublime mysteries of faith and emotional feeling must have been almost repellant. Although not wholly a stranger to the power of religious sentiment, he is always extremely careful in his writings, whenever there is the slightest allusion to the subject, to keep it in marked separation from any scientific reasoning. In his character as scientific investigator he could only approach the spiritual world in the attitude of a sceptical critic, if not of an incredulous rationalist, for he had by education ever been led to think for himself.

It may be objected that it is surely too much to say that a man like Humboldt could find no sympathy in the society of Berlin, as above described, especially as he, the most distinguished *savant* of his day, could not have been indifferent to the progress of science in Germany, of which his native city, since the establishment of the University, had become a powerful centre. That Berlin was even at this time to some extent worthy of such a designation, may be gathered from a hasty glance through the 'Gelehrtes Berlin im Jahre 1825,' where a general review of the state of society is given by Julius Eduard Hitzig.¹ But there does not appear to have been any of that concentration of scientific energy—perhaps scarcely to be regretted—so conspicuous at Paris; men of science laboured, isolated from the public, and maintained among themselves no bond of union. Each student of science lived almost exclusively within his own family circle, rarely was there an interchange of thought with any fellow-labourer; unlike art and literature, science

¹ 'Gelehrtes Berlin im Jahre 1825' (Berlin, 1826).

found as yet no general sympathetic interest among the educated classes. During his residence at Paris, Humboldt had been accustomed with his pursuit of science to a large admixture of the social element; his universal interest in science led him, even in society, to seek information, as opportunity served, on a variety of subjects, in which he was withheld from personal investigation either from lack of time or want of preparatory study. Facilities of this nature so abundantly offered to him at Paris were, notwithstanding the existence of the Academy, to a great extent denied him at Berlin: this loss was partly to be attributed to his position with the king, for his days being spent in the unscientific atmosphere of court life, he had some difficulty, when needing special information, in finding opportunity for personal intercourse with scientific men of distinction.

It is significant to notice the manner in which he expressed himself shortly before taking up his residence at Berlin upon the different estimate of scientific genius in France and Germany, upon which depends the existence of a comprehensive intellectual society. From Paris he writes to Berghaus,¹ on July 1, 1825:—‘German patriotism is a high-sounding word! In 1813 it served to fire the hearts of German youths on the other side the Elbe! And what has resulted from that infinite waste of blood and treasure? The probable issue was already evident in 1814, when the crowned heads congregated here. My brother went to Vienna with the best intentions, but — — —! In this city of the world, men of talent soon meet with appreciation: but this is by no means the case at Berlin, where a thick nebulous atmosphere circumscribes the range of vision, and everything is estimated by a literary standard. You ought to have returned to France as soon as the conclusion of peace had released you from military duty, for by virtue of the act of the 5th of April, 1795, you are by birth a Frenchman.’ The crowned heads and diplomatists of the Congress of Vienna, much as they erred, are only indirectly responsible for the want of appreciation for the achievements of science. Apart from the miserable condition of the country, politically, the nation was, in itself, too undeveloped, socially and commercially,

¹ ‘Briefwechsel A. von Humboldt’s mit Heinrich Berghaus,’ vol. i. p. 6.

to accord to its scientific men the same appreciative recognition they were accustomed to meet with in the drawing-rooms of Paris.

To this difference Goethe was also keenly alive; from a diligent perusal of the 'Globe,' a journal described¹ by Humboldt in 1826 as 'the only one characterised by any elevation of sentiment, or conducted in a noble spirit of independence,' he had formed a high idea of the elevated character of the intellectual culture of Parisian society. The fine passage he wrote on this subject to Eckermann on May 3, 1827, though well known, may here be cited, since it includes a pointed reference to Humboldt:—'Truth to say,' bemoans the poet, 'we all lead a miserably isolated existence. We meet with but little sympathy from the common herd around us, and our men of genius are scattered over Germany. One is at Vienna, another at Berlin, a third at Königsberg, a fourth at Bonn or Düsseldorf—all separated by some hundreds of miles, so that personal intercourse and a *vivâ voce* interchange of thought is a matter of rare occurrence. I am vividly impressed with the keen enjoyment this would yield when in the company of men like Alexander von Humboldt, who in one day carry me farther towards all I am seeking and yearning to know than I could attain during years of solitary study. Only imagine, however, a city like Paris, where the cleverest heads of a great kingdom are grouped together in one spot, and in daily intercourse incite and stimulate each other by mutual emulation; where all that is of most value in the kingdoms of nature and art, from every part of the world, is daily open to inspection; and all this in a city where every bridge and square is associated with some great event of the past, and where every street-corner has a page of history to unfold. And withal not the Paris of a dull and stupid age, but the Paris of the nineteenth century, where for three generations such men as Molière, Voltaire, and Diderot have brought into play a mass of intellectual power such as can never be met with a second time on any single spot in the whole world.' . . .

This was the Paris which Humboldt was expected to leave,

¹ De la Roquette, 'Humboldt, Correspondance inédite,' vol. ii. p. 76. Letter to Guizot, see p. 44 of the present volume.

if not of his own accord at least without reluctance, after an almost uninterrupted sojourn of eighteen years. It will be well perhaps to bring into prominence the features which to one of his character had rendered this sojourn so attractive. The freedom, equality, and brotherly feeling that reigned even prior to the Revolution among the men of talent in Paris, engendered, in spite of the propensity to cabals and envious intrigues, a spirit of mutual recognition, amounting even to admiration, which spread into a wider circle than the ordinary sphere of cultivated society. By this more extended circle Humboldt was eagerly welcomed, and found in it a congenial atmosphere to him almost essential. To how low a stratum of Parisian society his fame, to which he was never indifferent, had penetrated, may be gathered from the following incident related by Holtei, who visited the French capital in 1826: '—Upon taking one's seat in a hired conveyance and giving *his* address, the driver would reply, while touching his hat: "Ah, chez Monsieur de Humboldt!"—and from that moment he would view the stranger with more interest, as one who was going to pay his respects to the friend of the popular celebrities in Paris.' 'In Berlin,' adds Holtei in 1844, 'I never encountered a cab-driver who was acquainted with Humboldt's address.'

This ignorance in the cab-drivers of Berlin may well be excused in a city which of all places in the world is the last in which individual merit ever secures general appreciation or enduring popularity. 'In Berlin,' Rahel used sarcastically to remark, 'everything loses prestige and is pulled down to the level of mediocrity, if not degraded to insignificance: were his Holiness himself to come to Berlin, he would soon cease to be Pope, and become something quite ordinary, perhaps a horse-breaker.' Of Humboldt a resident in Berlin once remarked to Varnhagen: 'Humboldt was a great man till he came to Berlin; he then ceased to be anything extraordinary.'² Humboldt himself, who had imbibed from the French their enthusiastic expression of admiration, although preserving something of the local colouring of Berlin, comments in a spirit of bitterness and well-aimed satire upon the propensity of that 'audacious

¹ Holtei, 'Vierzig Jahre,' vol. iii. p. 351.

² 'Briefe von A. von Humboldt an Varnhagen,' p. 82.

crew,' as Goethe calls the Berlinese, to pull down everything claiming distinction when the first ebullition of enthusiasm had become exhausted. In writing to Encke from Paris on December 23, 1831, he remarks:—"It is the good old custom of my native city to rate the inhabitants of Berlin, in the abstract, above the citizens of any other town in Europe, while at the same time it would roll in the mud and tear limb from limb any who dared openly to praise in a foreign land any individual citizen, especially if his name should be of a Semitic character. . . . It is a gain to the whole community if the individual be torn to pieces. One is *obliged* to say that Berlin is the first city in the world, one *dares* not say that the works of Schinkel are worthy of the admiration which you and I accord them. Every individual forms a part of Berlin in the abstract, and apart from this aggregate no individuality is tolerated.' It must have been in some such mood that he inscribed, when about seventy years of age, upon the cover of a portfolio containing botanical notices for 'Cosmos,' the following words: 'Shame on thee, Berlin! I am weary of thee; thou art nothing better than a bear-garden.'

After all that has been said, it may seem somewhat strange that Humboldt, on February 16, 1827, only a few weeks before his final departure from Paris, should write to Gauss in the following strain:—"It has not been without an effort that I have come to the resolution of yielding up a portion of my liberty and relinquishing a scientific position in which I have enjoyed many varied pleasures during the last eighteen years. But I do not regret the step that I have taken. I was exceedingly impressed with the intellectual life of Germany on my last visit to my native country, and the prospect of living in your vicinity and of being surrounded by those who share with me my admiration for your great and universal talent, has been an important element in the formation of this decision. I shall not lack the will to make myself useful, and I shall always rely upon your counsel as upon the counsel of a "great master in the art." To those who are familiar with Humboldt's epistolary style these words present no difficulty. He does not venture to state that his decision is a voluntary one, and it is evident that the motive he adduces in the 'vicinity' to Gauss, who

lived at Göttingen, which before the days of railways was beyond easy reach of Berlin, is but one of those complimentary phrases which Humboldt was accustomed to employ when addressing that distinguished man, for whom, on account of his mathematical genius, he entertained a feeling of veneration. This explanation is confirmed by the allusion to the vicinity of Gauss's admirers, which as an exaggerated expression of amiable flattery would almost create a smile among the uninitiated. It is only reasonable, therefore, to modify in a similar manner the general observation upon the intellectual life of Germany in 1826; it could not have been the universal intellectual life by which Humboldt was 'exceedingly impressed,' but rather the superiority of individual men with whose labours he might have made acquaintance anywhere rather than at Berlin.

In the foregoing pages the acknowledged leaders in philosophy and theology have already been brought into notice; with them might be classed Marheineke, of the school of Hegel, and Neander, of the school of Schleiermacher, if indeed a man of his distinctive genius should not be considered as forming a school of his own. Men of no less celebrity were to be found among the philologists of that day. The names of William von Humboldt, Bopp, Böckh, Bekker, and Lachmann, with men of lesser note, Buttmann, Von der Hagen, and Massmann, stand associated with the most brilliant achievements in comparative philology and the most exact and valuable criticisms upon the classics and old German literature. The cultivation of philology led to the more extensive study of history, while Savigny took for his subject jurisprudence, Ganz exemplified the principles of Hegel in historical research, and in the field of universal history Friedrich von Raumer and Wilken had earned names of distinction second only to Ranke, who had raised this science to its highest dignity, and had recently arrived at Berlin for the publication of his first work. A fame of still wider significance had been gained by Karl Ritter in the field of geography, and side by side with him may be mentioned Berghaus, noted for his artistic delineation of maps. In statistics the name of Johann Gottfried Hoffmann stood prominent, while Krug was the successful exponent of other branches of political

economy. In the realm of medical science, among those equally distinguished for their scientific investigations and professional reputation may be mentioned the venerable Heim, Karl Ferdinand Gräfe, and the ingenious Hufeland, and with these may perhaps be included Rudolphi, Link, and Lichtenstein, entitled to distinction for their researches in comparative anatomy. While in metallurgy Karsten took the lead, and Weiss in mineralogy, Leopold von Buch ranked as the founder of a new system of geology; among the chemists may be mentioned Hermbstädt and his more celebrated contemporaries Heinrich Rose and Mitscherlich. The science of physics was prosecuted by the academicians Erman and Seebeck. In mathematics and astronomy, among the elder generation including Bode, Eytelwein, Fischer, Grüson, and others, Ideler alone, on account of the speciality of his historical chronology, deserves especial notice, while among the younger men may be mentioned Oltmanns, with whom we have already made acquaintance, Encke, Dirksen, and Ohm. The Academy register for December, 1827, includes the name of Ehrenberg, who had already attained some distinction, and in succeeding years appear the names of Dirichlet, Johannes Müller, Gustav Rose, Poggendorff, Steiner, and Dove.

A comparison of these men of note with the illustrious circle then assembled at Paris cannot fail to awaken the following reflections. As regards the concentration of learned men of European reputation, Berlin could in no way approach Paris. In philology alone could it offer any worthy representatives, while in natural science the foundations only had been laid of its future eminence. The wave of scientific culture, which had risen to so great a height in Paris at the commencement of the present century, had given place to a wave no less high which spread over the whole of Germany, and the period now before us—between the years 1820 and 1830—was the period of transition between the subsiding of the first wave and the rising of the second. This wave undoubtedly culminated at Berlin; for though the greatest scientific men of that time, Gauss, Bessel, &c., did not properly belong to the capital, the men of the following generation, upon whom the future of scientific effort in Germany depended, were there to be met

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with. Though some came only to Berlin after Humboldt's arrival, drawn thither probably through his influence, others had been already long resident there ; but from their youth and inexperience it was hardly to be expected that they should supply the place of the old-established and oft-tried friends from whom he had been severed. Humboldt, who in Paris had lived through this brilliant period of scientific energy, could not have anticipated that the wave of culture was to pass on to Berlin, and therefore could scarcely regard his removal to the Prussian capital as a gain to the interests of science.

The result of these observations on the momentous event of Humboldt's return to his native city may be summed up as follows. He left a wealthy and important city, profusely endowed with everything that could assist scientific inquiry, especially in the branches in which he was most interested, to settle down amid the small interests of an insignificant capital, at the head of a kingdom where the revenue, raised with difficulty, was obliged to be devoted exclusively to practical purposes. He resigned the enviable position of a universally welcome guest in the midst of cultivated and agreeable society to become a member of a court in every point of view of a contracted character, in the midst of a city community without a political creed, restricted even where its interest was most keenly excited by local considerations, and split up into parties animated by a spirit at once arrogant and impatient. He tore himself away from his customary habits, and broke up friendships never again to be fully renewed ; he was withdrawn from an existence which had become to him a second nature, and for the loss of which no position, however exalted, could afford him compensation, not even to be the acknowledged leader in art or science, since the unavoidable isolation of such a position could not but cramp his energies. He felt at Berlin as if belonging to another age, and by his extensive travels had become too cosmopolitan to derive consolation from the thought that he was once more upon his native soil ; for he had no reason to suspect that the Prussian nation had before her a future of unexampled greatness, and that before this destiny could be accomplished he was himself to originate a glorious epoch in science of which he was to form the brilliant centre, while the captivating city he

had left was soon to lose the foremost rank in the world of science. With so remarkable a change in outward circumstances, it is difficult to realise the prospect offered to Humboldt at this time. An experience common to many awaited him: he thought he was to be overwhelmed by a grievous misfortune, when in reality a bright future was being prepared for him. All that makes Humboldt most valued and appreciated in these days was acquired during his residence in Germany.

Upon his return from Italy Humboldt accompanied the king to Berlin, where they arrived on January 3, 1823. He remained for some months at the court, and even at that time a strong desire was expressed on the part of Frederick William to retain him in his vicinity. 'We hope at least to keep him through the winter,' writes Zelter to Goethe¹ on January 14, 'should he continue to officiate as chamberlain so long.' The king made him a grant of 1,000 gold Fredericks, by an order in council on January 18, and it was everywhere noticed that 'he was treated with marked distinction and favour.' Through his influence Colonel Hedemann, the husband of his niece, was granted a month's leave of absence, and even William von Humboldt, after a long retirement from court, was again invited to the royal table.² 'A grand banquet is to be given to-day to Alexander von Humboldt,' writes Zelter, with characteristic bluntness, on January 24, the birthday of Frederick the Great, a festival with the Academy; 'they think he may bring them into favour with his Majesty, and so they do not grudge him the king's friendship. I hope that as he eats his dinner he will reflect on the part he is expected to play.'³ Humboldt was once more successful in proving to the king the necessity for his return to Paris, so that the final call to change his residence to Berlin did not reach him till late in the summer of 1826.⁴ He arrived at Berlin in September, accompanied

¹ 'Briefwechsel zwischen Goethe und Zelter,' vol. iii. p. 287.

² Varnhagen, 'Blätter aus der preussischen Geschichte,' vol. ii. p. 287.

³ 'Briefwechsel zwischen Goethe und Zelter,' vol. iv. p. 291. The initials A. H. alone are given.

⁴ In the anonymous compilation entitled 'Memoiren Alexander von Humboldt's' (Leipzig, M. Schüfer, 2nd edition, 1864) occurs (vol. i. p. 371) the following 'autograph letter' from the king:—'My dear Herr von Hum-

by Valenciennes, who had been his travelling companion in the year 1818, and alighted at the 'Stadt Rom.'¹ During this preliminary visit of six weeks, the town gossip was busy with ascribing motives for his return. By some it was attributed to a ministerial appointment, probably as Minister for Public Instruction, since that post was, as we may remember, pressed upon him with much urgency in 1810; with greater truth it was by others attributed to pecuniary embarrassment, and they at once saw him installed in the lucrative and honourable position of President of the Academy of Sciences, as Leibnitz had been before him. Varnhagen, to whom we are indebted for the preservation of these surmises, subjoins the following comment:—'It is quite impossible that he himself can have any such wish; Paris is the right place for him, and he will be sure to return thither: as most people can there lay out money to

boldt. You must already have completed the publication of the works which you believed could only be accomplished satisfactorily in Paris. I cannot therefore grant you permission to remain longer in a country which ought to be an object of hatred to every true Prussian. I expect therefore that you will return to your native land as soon as possible. Your well-affectioned Sovereign, FREDERICK WILLIAM.' Although Herr Duncker and Herr Riedel have obligingly searched through the private archives, no reference has been discovered to any such letter. In regard to other matters, we do not feel called upon to pay any attention to the unsupported statements contained in that anonymous compilation.

¹ This brief notice is one among many of a similar character written by Humboldt during the latter years of his life in a fragmentary manner upon separate scraps of paper. They bear the inscription, 'Chronological order of the events of my life,' and commence with these introductory words:—'I do not undertake to write a description of my eventful life, since that is a work for which even I lack the necessary material, and for which I have never felt the smallest inclination. The object of these pages is restricted to a mere chronological record of those trivial occurrences in which the public have shown some interest, and which have not unfrequently been misdated and misrepresented. The inner life of a man is undoubtedly affected in a great variety of ways by outward events, but the heart's susceptibility, from which springs the veritable life, is the product of the varied character of the relationships surrounding him.' A brief account of his youth up to his sojourn at Gottingen follows, to which is added a list of dates without order or arrangement. He seems to have been intent on rewriting the biographical article in the 'Gegenwart,' already mentioned, which had been proposed to him, as appears from the remark, 'Brockhaus, p. 10, alles bene.' It is to be regretted that death prevented the completion of these reminiscences, which, though now almost illegible, afford some interesting data.

the best advantage, so can he there reap the fullest value of his fame. The king's favour, his popularity with the court, and his frank and entertaining conversation, would soon pass away were he to make this a permanent residence; the familiarity permitted him which is now found to yield delight would then be taken amiss, would be thought burdensome and unbecoming, until at length he would degenerate into the mere chamberlain. It is only in view of his speedy departure that Wittgenstein can tolerate his constant proximity to the king, for he had formerly ill brooked the marked tokens of royal favour shown to him whom, as brother of the Minister of State, he had even then regarded with suspicion. Witzleben, too, and indeed the whole court, would turn against him in the event of his remaining here. There is, however, no cause for apprehension on this score; he is to leave, he says, on the 25th (November), and that with very good will, if only he be furnished with sufficient means.¹

Nevertheless, in the course of a very few days Humboldt's residence at Berlin was determined upon. Prince Wittgenstein himself drew up the concluding arrangements, in part perhaps, as Varnhagen supposes, that this unpleasant business should be transacted in a manner which would bring least inconvenience to himself; yet he knew both the king and Humboldt too well to fear the effect of Humboldt's liberal views upon the political sentiments of his sovereign. To certain members of the aristocracy and bureaucracy, Humboldt's presence was a subject of grave apprehension. Upon the announcement that the son-in-law of William von Humboldt, Baron von Bülow, Counsellor of the Court of Legation, was to be sent as ambassador to London, 'Herr von Kamptz expressed extreme displeasure,' and 'Countess Goltz indulged in violent invectives against the whole Humboldt family, as a set of upstarts who usurped the places of their superiors, as a race of plebeians who tried to force themselves into the ranks of people of high birth,' &c.² . . . William, however, had, as far as he was personally concerned, been again received into favour, for during Alexander's stay in the capital, the leading members of the court were frequently

¹ Varnhagen, 'Blätter,' vol. iv. pp. 138, 140, 147, &c.

² Ibid. p. 188.

entertained at Tegel, whither they were attracted by the costly treasures of art that decorated the mansion recently restored with so much simple elegance by Schinkel.

On the day of his departure from Berlin, on December 3, Humboldt communicated to Varnhagen some particulars in reference to the position he was subsequently to occupy at court, where, in fulfilment of the duties of chamberlain, he would be thrown into close personal attendance on the king, who hoped thus to enjoy more of his society. It was not intended that he should hold any ministerial office, but simply to offer counsel when appealed to by the king upon subjects connected with art or science. To Varnhagen it seemed that a position of this nature gave promise of an immense amount of influence, free from the subordinate conditions of official routine; personal intercourse with the king appeared to imply everything; Herr von Altenstein would have no greater care than to stand well with Humboldt. Though this opinion has been frequently expressed, it is nevertheless quite erroneous; Frederick William III. was accustomed to leave everything in the hands of his ministers, and even under his successor, who was more readily influenced, Humboldt constantly felt it needful to enter into almost diplomatic negotiations with the Ministers of Public Instruction and Finance in order to carry out his wishes in the furtherance of art or science. It is unnecessary to allude to any political influence, since it has never been proved that he exerted any under Frederick William III., and only very occasionally was he known to do so during the reign of Frederick William IV. In consideration of the independent position he occupied at court as counsellor to the king upon subjects connected with science, the remuneration he received was justly designated by Humboldt as very liberal. Besides the additional aid promised him for the completion of his great work, he was to receive a yearly pension, including the salary due to him as President of the Academy, of 5,000 thalers. Yet this sum proved inadequate to meet his expenditure,¹ as he was constantly

¹ 'Im Ural und Altai. Briefwechsel zwischen Alexander von Humboldt und Graf G. v. Cancrin,' p. 43.

led through generosity of feeling to expend largely upon others. The welcome permission was also accorded to him of spending four months every year in Paris. Thus it will be seen that, as far as his outward life was concerned, the conditions imposed upon him in connection with his new position were neither onerous nor oppressive.

It was, however, imperative that he should return to France to superintend the breaking up of his Parisian home; and, notwithstanding the short time at his disposal, he found opportunity to send an affectionate greeting to the valued friend of his youth. 'It is decided,' he writes to Freiesleben, the day before his departure from Berlin, 'that I am henceforth to belong to my own country, and in May I am coming to take up my permanent residence at Berlin, where I shall be in *your* neighbourhood, and shall spend only four months every year in Paris. The king has considerably improved my pecuniary position. I shall pay a hasty visit to Weimar on my way to Paris.' The journey was also to include Dresden and Freiberg, that he might 'see Freiesleben once more, and talk with him over old times.' He arranged for Valenciennes to descend one of the mines, though he was unable to accompany him on account of his disabled arm. The following grateful letter, addressed to him by Freiesleben on December 16, affords delightful evidence of the permanent nature of the affection that existed between the two friends:—

'My very dear Friend,—I may indeed address you thus, since the personal intercourse I have just enjoyed with you, after a separation of twenty-nine years, has proved to me that your goodness, affection, and true-heartedness are wholly unchanged, and that the intellectual and social distinction you have attained has not estranged you from the friends of your youth. How can I ever sufficiently thank you for sparing us those few days and permitting such unrestrained intercourse to my family and myself! Everyone here is enraptured with you, and I have been inveigled into a promise of giving a sketch of your early life before our literary society on Tuesday next. These meetings are numerous attended, and attract many people of considerable scientific attainments. You must not be angry at this, and should you ever deign to give my paper the benefit of your

revision, it might then become more widely circulated; for a retrospect of your early life, passed amid so much useful activity, of which many incidents have almost been lost sight of owing to the brilliancy of your subsequent career, would form a very attractive and instructive picture. You must also pardon us the vanity of our newspapers, which could not keep silence concerning your visit and the inscription of your name in the strangers' book, which has created a great sensation. Both these facts are valuable in the history of the school of mines, and therefore I have been the less disposed to interfere with their extended publication. With unbounded respect, and yet with unabated and undeviating affection, I remain, &c.,

‘FREIESLEBEN.’

From Freiberg the travellers proceeded through Chemnitz to Weimar, where they spent several days. It was on this occasion—on December 11—that Humboldt paid the visit to Goethe which produced in the great poet that ‘state of joyous excitement’ in which he was found by Eckermann, whose description of the visit, as narrated in Goethe’s own words, has found a place in a previous section of this biography.¹ On the 13th they dined with Karl August. Even during this hurried journey Humboldt did not omit to make some observations upon the inclination of the magnetic needle, similar to those he had undertaken on his journey to Berlin and in the garden at Bellevue during his sojourn there. Before leaving Berlin he had, in November, delivered a lecture before the Academy on the expedition of Ehrenberg and Hemprich, in which he had taken occasion to remark, in his prefatory observations, upon the high value of the researches of the scientific investigator as compared with the labours of the mere collector.²

This visit to Paris, which he describes to De la Roquette as ‘the last weeks in which I can be said to enjoy the happiness of living in your noble country,’³ must have been fraught with

¹ Vol. i. p. 175.

² ‘Briefwechsel mit Berghaus,’ vol. i. p. 78; see ‘Berliner Conversationsblatt,’ 1827, Nos. 31 and 32.

³ De la Roquette, ‘Humboldt, Correspondance, etc.’ vol. i. p. 269.

peculiar sadness to Humboldt; nevertheless the time passed rapidly away. We learn from the letter to Gauss of February 16, 1827, which has already been quoted in these pages, that he had every wish to be useful to his country, and he had reason to believe that his residence in Paris had not been without beneficial results to numbers of his fellow-countrymen. Yet, with cruel ingratitude, the Berliners could only accuse him of being able to reap there the fullest value from his fame! With far greater justice, Holtei makes the remark, that 'he bore with generous self-renunciation the martyrdom of his German birth.' It will be well to conclude these reflections upon Humboldt's departure from Paris with the following forcible passage from the pen of the popular poet of Silesia, which may be regarded almost as the expression of national feeling on the subject of Humboldt's foreign residence:—'Who ever came to Paris possessed of a black coat, a white cravat, and a pair of decent boots, without making a point of finding out Humboldt? And who—however strange it may sound, it is nevertheless true—who ever left a card upon this noblest of great men, this prince of benevolence and unexampled liberality, without receiving a personal visit in return, at the kindness and condescension of which the recipient might well be overwhelmed? Who was there who had not occasion to rejoice with gratitude at the unwearied kindness, the wise counsel, and the ready assistance ever offered by this indefatigable patron of science, whose whole life appears to have been devoted to the service and pleasure of others?'¹ It might almost be said that he was called to relinquish the position of social ambassador or consul at Paris for the whole of Germany, that he might occupy at home the post of a minister of the interior for the furtherance of benevolent schemes and intellectual progress. The duties that he forsook at Paris were awaiting him at Berlin in another form, and he set himself with similar zeal to their fulfilment.

In February, 1827, Humboldt left Paris and travelled to London in company with Baron von Bülow, who was proceeding to England to enter upon the duties of his new official position.

¹ Holtei, 'Vierzig Jahre,' vol. iii. p. 351.

After a short and exciting visit to Canning, he hurried through Hamburg to Berlin, where he arrived on May 12, and took up his residence in the centre of 'the capital of German civilisation, as people are beginning somewhat grandiosely to style Berlin.'¹ For the unsettled life that awaited him, he must have been in some degree prepared by his short preliminary visit, during which 'he never felt sure for a single instant of being his own master.'² He now found the court in more than usual commotion, for May 26 had been fixed for the solemnisation of the marriage of Prince Charles with Princess Marie of Weimar. Owing to the peculiarity of his position, which, from its personal and ill-defined character, could not easily be accurately determined, it is not surprising that every kind of false and exaggerated rumour was afloat respecting his life at Berlin. Humboldt eagerly set himself to correct all such misstatements, since, throughout life, nothing was to him so painful as unjust or ill-founded newspaper reports about himself.³ 'Your "Hamburger Zeitung" has taken an aversion to me,' he remarks in a letter to Schumacher on June 29. 'The king is certainly as gracious to me as he has been for so many years past, but I am far from being "daily in his society or exercising any influence in regard to scientific appointments."' The following year he even thought himself obliged to explain to Bessel the true motives for his change of residence, and in his reply, dated July 2, 1828, Bessel writes:—'That you are attracted by the amiable qualities of the king, and that you feel compensated for the sacrifices you have made by the amount of usefulness you will be able to exercise, I can readily understand; but that the favour of the king could offer any gratification to your ambition, never once occurred to me as possible. You were as great in the deserts of the Andes as in the drawing-rooms of Paris: you can attain no higher eminence. In this lies the true grandeur of your position.' The absurd expectations cherished by the Berlinese, as to the influence Humboldt was to exert upon the court and government, were naturally doomed to disappointment, and, as a necessary consequence, rumour was busy for several months in

¹ 'Briefwechsel mit Berghaus,' vol. i. p. 50.

² Ibid. p. 78.

³ See 'Im Ural und Altai,' p. 54.

endeavouring to investigate the causes of his supposed disgrace.¹ The fact that Humboldt, on this occasion, did not accompany the king to the baths at Teplitz was erroneously attributed to some such cause.

Certainly Humboldt had no lack of enemies amid the surroundings of the court. Among the most prominent of these was Ancillon, who, when tutor to the Crown Prince, had viewed with jealousy the attraction early evinced in his lively young pupil for the society of one whose vast treasures of knowledge were stored in a mind of such comprehensive grasp. He justly dreaded the revelation of his own superficial education, which he artfully concealed under a meaningless flow of words, and the discovery of the shallowness of his views in regard to the momentous questions of theology, moral philosophy, history, and politics. He hated both the Humboldts with great cordiality, but the especial object of his aversion was Alexander, whom he was accustomed to designate 'the Encyclopædic Cat.'² It can be no matter of surprise, either, that Von Kamptz, one of the Ministers of State, should have regarded Humboldt with suspicious hatred, as a 'revolutionist in court favour.' These unfriendly influences produced but little effect upon the crown prince and none whatever on the king, who would not allow the smallest restriction to be placed upon the position of useful activity which he had from the first assigned to Humboldt. He was, in August, nominated by Frederick William president of a commission for investigating the claims of the petitions for relief, addressed by artists and men of science—an office in which he was associated with Schinkel, Rauch, and Schadow.

Humboldt, in fact, lost no time in availing himself of his position for administering help and patronage to those who needed it. He at once obtained a pension of 4,000 francs for Koreff in Paris, and in this first effort experienced the annoyance, of which he afterwards so frequently complained, arising from the dilatoriness of Altenstein, the Minister of Public

¹ For this and all similar statements it will be understood that Varnhagen is our authority. See several places in 'Blätter aus der preussischen Geschichte,' vols. iv. and v.

² Varnhagen, 'Tagebücher,' vol. i. p. 52.

Instruction. To his impulsive nature, the circumspect procedure of official benevolence was most wearisome, as it appeared to him to involve so much unnecessary delay. The scantiness of the public funds, too, formed an additional hindrance to the prosecution of his benevolent schemes. In replying to Schumacher, on June 2, 1827, who had suggested some appointment for Gauss, Humboldt remarks: 'I fear that Altenstein is very restricted in his finances just now, since all the funds have been appropriated.' But in *this* case the impossible must be achieved, and he continues: 'It shall not fail for want of indefatigable energy on my part; you know my admiration for the man, but I am too new in my office to be able to give any direct promise.' He soon discovered that the time was inopportune for rendering this gracious act a 'happy possibility.' Humboldt was equally unsuccessful in his endeavours to obtain shortly afterwards an appointment for Karl Ritter, which might enable him to devote himself unreservedly to his great work upon the geological history of our globe.¹ Since the year 1826, he had laboured with unwearied assiduity to obtain employment for Dirichlet. As in this case his wishes were directed towards some post in the Military Academy, his influence had to be exerted not merely upon Altenstein but on Prince Augustus and Radowitz, at that time Director of the Educational Commission. His advice, meanwhile, to Dirichlet was given with characteristic diplomacy: 'Try to keep on good terms with all the geometricians here, especially with Gauss.' He also recommended him to maintain favourable relationships with the French Institute, since 'this will prove of value on account of the influence it will reflect throughout Germany.' He copied a letter from Bessel, in which Dirichlet was alluded to in flattering terms, in order that it might be shown to Altenstein and Radowitz, and concludes his own commendatory letter to him with the words:—'You may show this letter to your friends; I have only written what I really feel.' He did not despise even the most trivial opportunities that seemed likely to further his end; and recommended his young friend, when invited to breakfast with Radowitz, to take with him his 'Theory of Formulæ.' We shall often have

¹ G. Kramer, 'Karl Ritter,' vol. ii. p. 32.

occasion to notice the manner in which Humboldt, in seeking good and worthy objects, would avail himself of the most ordinary channels, and means even somewhat indirect, but always of a most honourable character; at present our only object is to show the skill and energy with which he set himself to carry out at once in his new position that active benevolence which he had been accustomed to exercise with so much tact at Paris. In all questions of art, Humboldt's personal counsel was eagerly sought by the king, who was himself deeply interested in such matters; and to his influence must be ascribed the acquisition of the collections of Passalacqua, Bartholdy, and Koller. In 1829, he obtained a considerable yearly grant for the School of Industry, and was the means of procuring the king's consent¹ to the erection of a new observatory, and the purchase of Fraunhofer's large telescope at Munich.

In political matters Humboldt exercised no influence; for the rare occasions when he was instrumental in procuring decorations for men of science can scarcely receive a political construction. He spoke freely at the table of Prince Augustus against Villèle and in favour of Canning, openly defended at court the proceedings in support of the Constitution of Portugal, and even concluded his first public lecture before the Academy on July 3, 1827, 'Upon the principal Causes of the Variations of Temperature upon our Globe,' with an enthusiastic encomium on the struggle of the Greeks for liberty. Humboldt was possessed of far too much tact and discretion to allude to such subjects before the king or the crown prince. Even with General von Witzleben he kept himself in favour; and with opponents such as Ancillon he maintained an outward appearance of forbearance, though tinged with a delicate irony. This did not prevent him, on the other hand, from indulging in irritating sarcasms against his enemies, and giving vent to satirical criticisms upon the ministry, the court, and general society. He spoke of his chamberlain's uniform as a ridiculous costume; there was no place in all Europe, he complained, where the court and the nobility were so unintellectual, igno-

¹ 'Im Ural und Altai,' p. 47. Also in many unpublished letters to Schumacher.

rant, and untutored, as at Berlin, nor so determined that it should be so. All knowledge of any other life, opinion, or effort was wilfully and obstinately put aside; and, with contemptible pride, the courtiers strove to live in rigorous isolation, in ignorance even of the world that lay immediately around them. They never seemed to suspect how much they lowered themselves and lessened their influence by such conduct, nor how greatly it exposed them to future calumny and contempt. The peevish irritability produced in Humboldt by his transcendent mental and social qualities was rarely vented against the person of his sovereign, though he exceedingly lamented that terrible ennui from which the king suffered, and which all society was powerless to relieve; whoever might be present, no free conversation, no unrestricted intercourse could take place, and Humboldt readily saw that in such a circle there could be no opportunity for the exercise of any profound or intellectual faculty. The king, moreover, had no wish to be entertained by conversation, scarcely would he yield to the distraction of lively narratives when new, pointless, and not too long. From the numerous stories still current, everyone is familiar with the utter helplessness of Frederick William III. in conversation—that ‘grace of embarrassment,’ as it has been happily termed,¹ which to some extent always gave a *gêne* to his society, and which must have been intolerably irksome to Humboldt, accustomed as he had been to the lively flow of conversation in Parisian circles.

The king, however, was never weary of loading him with tokens of the most flattering confidence. He begged him to consider it as a matter of course that he would always be welcome at midday or evening, whenever he chose to come.² When Bunsen visited Berlin in the autumn of 1827, Humboldt was appointed to act as his guide, and both were favoured with many marks of distinction from Frederick William III.;³ they were admitted by the king into the privacy of his family circle, amid the patriarchal simplicity in which he lived in the

¹ Holtei, ‘Vierzig Jahre,’ vol. iii. p. 208.

² Varnhagen, ‘Blätter,’ vol. v. p. 78.

³ Bunsen, vol. i. pp. 285, 304, &c.

little village of Paretz, of which the king himself constituted the chief magistrate, where no soldier ever entered, and scarcely even a minister of State. Bunsen remarked that the people there 'might make good subjects, but were but indifferent associates.' As the appointment of Humboldt as cicerone to Bunsen was no doubt intended by the king as a mutual pleasure to these celebrated men, so he conferred a far higher honour and gratification upon his distinguished chamberlain when commissioning him to attend upon Karl August on the occasion of his visit to the court in June 1828. It was a strange coincidence, as Goethe remarks, 'that the Grand Duke should spend the last few days of his life in almost uninterrupted intercourse with Humboldt at Berlin, discussing with his friend to the last many important problems in the solution of which he had always manifested the keenest interest; nor was it of slight moment that the closing days and last hours of one of the greatest princes that Germany ever saw should have been witnessed by such a man as Humboldt.' The memorable and unreserved expressions made use of by Karl August during those sad days have already been given in another portion of this work.¹

It was regarded as a further proof of royal favour that in the summer of 1828, Humboldt was selected by the king to accompany him to the baths of Teplitz—an arrangement which afterwards became almost an established custom. Shortly before his Asiatic expedition, Humboldt was created, on April 6, 1829, Actual Privy Counsellor, with the title of excellency—a distinction which, unlike his brother William, he failed to appreciate, and indulged his customary satire when entreating his friends in addressing him to omit 'the detestable Excellency.'² On his return from Russia he was further invested with the order of the Red Eagle of the first class.

These proofs of royal favour, unimportant as they may seem to us, naturally made him an object of envy to many of his associates. 'His enemies,' remarks Varnhagen, 'multiply in proportion to the increase of his honours, dignities, and in-

¹ Vol. i. p. 207; see Eckermann, vol. iii. p. 257, &c.

² Berghaus, vol. i. p. 116.

fluence. The pietists now hate him heartily.'¹ To all this, however, he was quite indifferent, treating it in jest, as was his wont. Beyond the immediate circle of the court, he enjoyed, with his former Parisian versatility, unrestricted intercourse in every rank of society, and associated with almost everyone in Berlin who possessed any claim to distinction either by intellect or position. He was to be found as often at the assemblies of Field-Marshal Gneisenau as among the æsthetic circles that gathered round Rahel, or at the house of Beer, where he was accustomed to assert that 'he enjoyed himself much more than at court.' Ritter, in writing to Sömmering, remarks:—'We have this winter (1827-1828) spent many pleasant evenings, owing to the presence of Humboldt; he has an enviable talent for constituting himself the centre of intellectual and scientific converse.'² 'I often endeavoured,' observes Holtei,³ 'when meeting him in society at Berlin, to engage him in conversation in the manner I found so successful at Paris. There it was my habit, when his vital energy had been somewhat exhausted by the lively rattle of general conversation, to entice the great man into a corner, and lead him into *tête-à-tête* converse, where I was delighted to start him upon some interesting topic. Thanks to his facility in explaining a subject, I might almost say the necessity he felt of making himself understood, and his habit of adapting himself to the capacity of his hearer, my experiment was eminently successful.' To the same writer we are indebted for the following graphic picture:—'Upon his entrance a joyous exclamation was heard from all present, and as soon as the company were again seated the lady of the house would exercise her privilege of starting a topic of conversation by addressing some proposition to the distinguished guest, while everyone became an eager listener. There was no necessity for the subject to be of a scientific character, it served the purpose equally well if it were a piece of general news or town gossip in which there might possibly be some admixture of scandal . . . the in-

¹ Varnhagen, 'Blätter,' vol. v. p. 268.

² R. Wagner, 'Sömmering's Leben,' vol. ii. p. 174.

³ Holtei, 'Vierzig Jahre,' vol. iv. p. 32.

⁴ Holtei, 'Die Eselsfresser,' vol. ii. p. 190.

tellectual giant could play with it as he pleased, and could turn and twist it in such a manner as to make it an opportunity for the display of penetration, wit, irony, worldly wisdom, memory, and versatile genius, in which there not unfrequently mingled a little spite along with his knavish *bonhomie*.¹ Of the consummate tact with which he was able to adapt himself to the habits of society at Berlin, as he had formerly to the social customs of Paris, we have the testimony of a writer still living who enjoyed his personal friendship; to this evidence we shall subsequently have occasion to refer, when discussing the character of our hero. It is almost needless to remark, that Humboldt was the honoured guest at all public entertainments; and on such occasions during the spring and summer of 1827, shortly after his arrival at Berlin, he was frequently thrown into the society of August Wilhelm Schlegel—a circumstance of some significance, since from this intercourse he derived the final incitement to the celebrated lectures on physical geography which laid the foundation of ‘Cosmos,’ and to which we now propose to direct our attention.

It is undoubtedly to the Romantic School—if we set aside the isolated efforts of Moritz in Berlin in 1789.²—that Germany is indebted for the attempt to popularise science by means of lectures, in which the highest intellectual subjects are brought before the consideration of an educated public. It was at the commencement of this century—between the years 1801 and 1804—that August Wilhelm von Schlegel ventured at Berlin, the centre of popular enlightenment, to propound by means of lectures the æsthetic doctrines of the new school, including critical discussions upon the art of poetry. He was succeeded by Fichte, who, in the winter of 1804–5, delivered a powerful and animating course of lectures upon the ethics of politics under the title of ‘The Characteristics of the present Age,’ and followed up the subject in the winter of 1807–8 by a concluding series, ‘Discourses to the German Nation.’ The sermons delivered by Schleiermacher during the next few years, characterised as they were by a tone of sublime philosophy, might almost be regarded as a further elaboration and completion of

¹ H. W. Dove, ‘Gedächtnissrede auf Alexander von Humboldt,’ pp. 9–12.

² See vol. i. p. 60 of this work.

the subject. The Romantic School subsequently found an able advocate in Steffens of Breslau, who visited Berlin in the winter of 1824, in the hope of winning disciples at the University. Besides the course of lectures addressed to the students on 'Anthropology,' treated from the points of view of a natural philosopher and historian, he delivered a series of discourses extending over two months, from February 3 till April 2, 1825, before a numerous and distinguished audience, the greater part of whom were ladies, assembled at the hall of the government offices; yet even to an audience of so discriminating a character the lectures, notwithstanding every attraction of rhetorical embellishment, appeared both unscientific and phantastic.¹ Upon the arrival of Schlegel at Berlin early in May, 1827, a few days before Humboldt's return to his native city, he was received by the literary world, who had long breathed the atmosphere of the Romantic School, in the most flattering manner, and at once importuned to undertake a fresh series of lectures. The new music hall, inaugurated on April 8, as elegant in appearance as it was admirably adapted for sound, offered all that could be desired in a lecture-room. In the city which owed its beauty to the works of Schinkel and Rauch, Schlegel with admirable tact selected as the theme of his discourses, 'The Theory and History of the Plastic Art,'² which he delivered extempore and without reference to notes. Upon this subject he had but touched in a very cursory manner when lecturing in 1801,³ and it was to be expected that after an interval of a quarter of a century his views should have gained considerably in depth and clearness. His history of the development of art, superficial as it may now appear, was founded at least upon the same principles as the views then being advocated by Hegel in his lectures upon æsthetics, before an audience including many unconnected with the Academy. These lectures, the charge for which was at the rate of a gold Frederick for every twelve⁴—the

¹ Varnhagen, 'Blätter,' vol. iii. p. 230, &c. Steffens, 'Was ich erlebte,' vol. ix. p. 274.

² The outlines of the lectures, as furnished by Schlegel himself, are contained in the 'Berliner Conversationsblatt' (1827), Nos. 113-159.

³ See Haym, 'Die Romantische Schule,' p. 775, &c.

⁴ 'Briefwechsel zwischen Goethe und Zelter,' vol. iv. p. 312.

course consisting of seventeen—drew a considerable audience among the educated and distinguished circles of Berlin, though few ladies were present. It is a characteristic of the citizens of Berlin to criticise what they have paid for; so that, notwithstanding the charm of these discourses of Schlegel, they were subjected to animadversion, being condemned as antiquated, trivial, and insipid, the ladies asserting that they had learnt nothing, and had been addressed as if they were children;¹ meanwhile a man of power like Zelter found in them much to interest and gratify. Humboldt, doubtless, attended most of these lectures, and must have formed one of that ‘captious audience’ of whom Zelter speaks, though to him they could not fail to have been instructive.

It is necessary to enter somewhat fully into Schlegel’s undertaking, since it exerted a powerful influence upon Humboldt, stimulating him to commence the series of lectures which were delivered the following winter. In his second lecture Schlegel made a striking allusion to science, while ascribing to its influence the present state of culture in Europe, and pointing out that in modern civilisation it formed the chief characteristic. Although the expression of such a sentiment might be regarded as a compliment to Alexander von Humboldt, recently arrived at Berlin, whose name was resounding in every circle, in the same way as an allusion to literature had been supposed to have reference to William von Humboldt, it is remarkable, in view of the lecturer’s known opinions, that after lauding science as the characteristic study of the age, he should subjoin the following censure:—‘that, owing to the exclusive contemplation of the finite and individual, our physicists have failed to seize the fundamental idea of nature.’ This would almost seem an unconscious appeal for the lectures on physical geography, had not the speaker proceeded to dilate in praise of the scheme of natural philosophy promulgated by Schelling and Hegel. It is scarcely a subject of surprise that, in the city where a disciple of Hegel had instituted a university course for the elucidation of Goethe’s theory of

¹ Varnhagen’s ‘Blätter,’ vol. iv. pp. 237, 244, 247, &c.; see Zelter, vol. iv. p. 346.

colour, a further censure should have been passed upon physicists for 'holding with incredible pertinacity Newton's groundless hypotheses.' This utter absence of any scientific education worthy of the name must have impressed itself afresh upon Humboldt, and shown him how little reliance was to be placed upon the powers of comprehension of such an audience. When, therefore, he announced in July that he should deliver during the coming winter a course of lectures on physical geography, intended rather for the fashionable world than for students, 'for the caps and gowns,' the motive was not so much 'to show that he was no mere courtier,'¹ as to gather round him persons of education and intelligence, and to influence the future through the rising generation, since it appeared to him that little was to be hoped from the present age. A second course of lectures, delivered at the music hall before a mixed audience, was instituted at the repeated and express desire of the public, and we shall not greatly err in supposing this desire to have originated in consequence of Schlegel's enterprise of a similar nature. Moreover Humboldt had, as is well known, during his sojourn in Paris, delivered a course of lectures upon physical geography in 1825, before an assembly gathered at the house of the Marquise de Montauban, sister of the Duc de Richelieu; but we are unable to state the connection that existed between these lectures in Paris and those given at Berlin, beyond the fact that, as they were closely allied in subject, the earlier lectures must to some extent have been preparatory. On one occasion only he incidentally mentions to Böckh,² that in the delineation of Nature he had attempted in Paris he had been unable to represent her apart from the reflective influence she exerts upon the mind. It is surprising how very little is known of the lectures delivered in Paris; it almost seems as if the fact of their existence had never penetrated beyond the private circle for which they were intended. Élie de Beaumont, who was then in Paris, could not afterwards recall having ever heard of them.³

¹ Varnhagen, 'Blätter,' vol. iv. p. 269.

² Letter of December 26, 1846.

³ De la Roquette, 'Humboldt, etc.' vol. i. p. 20.

With regard to the lectures in Berlin, Humboldt has emphatically declared in his autobiographical notices 'that the book entitled "Cosmos" was not to be traced to those discourses, since the foundations for that work were laid long before, during the journey in Peru, and appear in the "*Tableau physique des Régions équinoxiales*," which was there written and dedicated to Goethe.' If by this statement he sought to indicate the first conception of 'Cosmos,' he might have gone back to a still earlier period, since it was in the year 1796, January 24, that he wrote to Pictet: 'I have been drawing up a scheme for a universal science;'¹ although at that time, keenly as he felt the necessity of such a work, he saw no sufficient basis for its construction. Notwithstanding, the reader will be compelled to admit, not merely from the narrative before us but also from expressions made use of by Humboldt both at this time and at a later period, that 'Cosmos' may without hesitation be regarded as the result of these lectures, only that the fruit of after years' careful nursing ripened into a much more glorious product than the blossom gave reason to expect. In the latter years of his life, he again expressly states ('Kosmos,' vol. v. p. 89) that 'Cosmos' 'originated' out of these lectures upon physical geography. We shall therefore feel justified in entering with some minuteness into a critical examination of the lectures delivered during the winter of 1827-28. Our remarks will not be based upon any notes taken down at the time and subsequently elaborated, though a manuscript of this description lies before us; for, as Humboldt has himself remarked in reference to this subject,² 'nothing is more annoying than to see your own ideas published in mingled confusion with the thoughts of another.' All manuscript notes, therefore, taken down at the time were to him 'abominations.' Fortunately, among his papers there have been found some notes in his own handwriting, giving an outline of the subjects of both courses of lectures, an abstract of which he inserted in the preface to the first volume of 'Cosmos.' There are besides numerous quarto pages contain-

¹ See vol. i. p. 107 of the present work.

² Letter to Richard Zeune (Berlin, February 10, 1857).

ing notices of the lectures to be delivered, where parts have been cut out and pasted over with additions of a later date evidently in preparation for publication; these papers, incomplete as they are, afford a guide by which the course of the lectures may be followed, and are in themselves evidence that at least the first and second volumes of 'Cosmos' were based upon them, both in point of subject and order of arrangement.

Members of the Academy of Sciences at Berlin are entitled, in virtue of this distinction, to lecture before the University. Humboldt, therefore, was only availing himself of the customary privilege when he announced a course of public lectures upon physical geography, to be delivered during the winter session of 1827-28. In his introductory remarks he alluded to the 'difficulty' he experienced to avoid clashing with Link, who had recently lectured upon the same subject, and appealed to the indulgence of his audience from the disadvantages under which he laboured in the loss of familiarity with his native tongue, owing to his long expatriation, and in the novelty of his position in occupying the lecturer's chair, since the lectures he delivered in Paris were of so different a character as hardly to deserve the name. Between November 3, 1827, and April 26, 1828, he delivered sixty-one lectures before the University; at first he lectured twice in the week, but from the end of March, with the exception of a short pause at Easter, he gave a lecture nearly every day. In addressing his audience he used no other notes than the outlines already alluded to, which, from the fulness of detail demanded by the subject, were manifestly necessary. After a short preliminary definition of the province of physical geography, he gave in the first four lectures¹ a general description of nature, afterwards incorporated in a more extended and elaborate form in the first volume of 'Cosmos.' He next proceeded to astronomy, whence he passed to the consideration of the planetary condition of the earth, and, after giving the principal outlines of geology and meteorology, dwelt upon the geographical distribution of plants and animals, and the spread of the human race. The importance he attached to

¹ The deviation from this order in the Preface to 'Cosmos,' vol. i. p. xi. is substantiated by the manuscript notes.

the honourable mention of other scientific labourers is noticeable even at this epoch—a characteristic which in ‘Cosmos’ developed into a system for the acknowledgment of every personal or literary obligation—and during the first course of lectures he brought into notice the scientific men of Berlin, Encke, Seebeck, Buch, Mitscherlich, William von Humboldt, and Rudolphi, referring in general terms to his predecessor Link, and subjoining a half-ironical remark upon Steffens, who, as a ‘natural philosopher’ endowed with brilliant gifts of eloquence, had with some degree of applause selected similar subjects for the theme of his lectures upon anthropology. The fifth lecture was devoted to a more minute and distinctive description of the physical phenomena of the universe, in contradistinction to an encyclopædia of sciences, to mere natural history, or a description of nature; in this lecture, also embodied in the first volume of ‘Cosmos,’ Karl Ritter is alluded to, in connection with the terrestrial portion of the description of the universe, as the best exponent of geographic data. The succeeding lecture opened with a ‘protest against Hegel,’ for in the strong censure passed upon the ‘system of natural philosophy without facts or experiments,’ his school was clearly indicated. There still raged ‘amid the abuse of noble powers the wild though brief saturnalia of a purely ideal science,’ there still prevailed, particularly in the University of Berlin, ‘the intoxicating delusion of a conquered possession,’ characterised ‘by its own peculiar symbolic language,’ that ‘scheme of philosophy narrower than was ever imposed upon mankind in the middle ages.’¹ It cannot be supposed that this annihilating censure was delivered before the University in the same form in which it was published seventeen years afterwards in ‘Cosmos’—though Humboldt maintains² that he made use of the same words when lecturing in the music hall—but it is evident that he ventured to attack the evil with ruthless severity at the head-quarters of the enemy³—a deed no less daring

¹ ‘Kosmos,’ vol. i. pp. 68, 69.

² From an undated letter to Böckh of the year 1841.

³ Information reached Hegel that Humboldt had let drop some offensive remarks against his philosophy. In the ‘Notes’ forwarded by Humboldt in his justification to Varnhagen for Hegel’s inspection, stand the words:

than was the penetration of the youthful Schlegel into the camp of Nicolai. The following three lectures embraced the history of the study of our globe, which was divided into six epochs, in many points corresponding with the eight epochs found in the second volume of 'Cosmos,' and with them were incorporated an outline of the history of natural philosophy now forming the introduction to the third volume. It is remarkable with what clearness even at this period, before he had entered upon his severer historical studies, he brought out the important influence exercised by Arab races upon civilisation. Among the inventors of scientific instruments, Erman, a Berlin physicist, received honourable mention. The ninth and tenth lectures upon the incitements to the study of nature, corresponding with the first part of the second volume of 'Cosmos,' contained remarks upon landscape-painting and descriptive poetry, in which he frequently alluded to the early impressions that first led him to the study of nature, instancing among other things the sensation produced by the beauty of exotic plants as seen in botanic gardens; to this section was appended a list of authorities. During the following lectures of a more specific character, this list is much more voluminous, though admitting only of a feeble comparison with the valuable notes in 'Cosmos.' The facts gathered from the observation of natural phenomena, subsequently treated of in the third and following volumes of 'Cosmos,' extended over fifty-one lectures; the method of their arrangement is given in the preface:—sixteen lectures were devoted to astronomy; five to the form, density, and internal heat of the earth, terrestrial magnetism, and the phenomena of Aurora Borealis; four to the consolidated crust of the earth, hot springs, earthquakes, and volcanoes; two to mountain structure and types of formations; two to the form of the earth's surface, the configuration of continents, and the upheaval and splitting of rocks; three to the liquid envelope—the ocean; ten to the elastic fluid envelope—the atmosphere, and the distribution of heat; one to the geographical distribution of organic struc-

'certainly no antiphilosophic meaning.' He declined to attend to any appeal founded on notes taken down during the lecture, nevertheless in his own outline occurs the expression: 'Protest against Hegel.'

tures in general; three to the geographical distribution of plants; three to the geographical distribution of animals; and two to the human race.

Notwithstanding Humboldt's assertion to the contrary, little doubt can now remain that 'Cosmos' is somewhat more intimately connected with the lectures than 'merely carrying out the range of subjects which were there treated of.' The value of 'Cosmos' consists to a great extent in the amount of 'trustworthy numerical data,' and in the 'collection of countless facts compiled during an extent of reading to which no language presented a barrier, and in which every epoch of literature was embraced with equal fulness'¹—a compilation and careful elaboration of a boundless mass of material which was in fact chiefly the work of later years; but besides the superficial dimensions, so to speak, of this gigantic work, it is equally remarkable for the profundity of the conception in its grand intellectual compass, whether viewed in detail or as a whole: this comprehensive conception, of which the 'ill-defined image had for almost half a century floated before his mind,' was now for the first time—if we except the discourses in Paris—set forth in a vivid form. The lectures of 1827, to which he himself attached, without premeditation, the name of 'Cosmos,' are more than a mere sketch, and are in reality to be regarded as a cartoon for the great picture of the universe given in 'Cosmos,' containing all the important features of the subsequent work.

The attendance at Humboldt's public lectures, that is to say, those for which no entrance fee was required, was extremely crowded, and the applause boundless. The lectures are thus referred to in a Berlin newspaper of that date:²—'The University has received a valued acquisition in the arrival of Herr Dr. Alexander von Humboldt, who, in his capacity of member of the Royal Academy of Sciences, has announced a course of lectures upon the physical constitution of the universe. The opening lecture was delivered on the 3rd of November, before a very crowded audience, and the series are now being continued amid an ever-increasing enthusiasm. By the lucid manner

¹ H. W. Dove, 'Gedächtnissrede auf Alexander von Humboldt,' p. 30.

² 'Spener'sche Zeitung' of December 8, 1827.

with which he grasps the facts discovered by himself and others, in the various branches of science, and arranges them in one comprehensive view, he throws so clear a light upon the boundless region of the study of nature, that he has introduced a new method of treating the history of science. For facts, in their most ordinary aspect and most diverse relationships, when thus harmonised, acquire a surprising value in departments in which at first they seem to have no connection.' Through the somewhat veiled style of this newspaper report—savouring of the school of Hegel—there may yet be traced the deep impression that Humboldt's lectures made upon the mind of his audience, who, it would seem, far from consisting merely of students, comprised 'all the Berlin professors,' and the educated of every class. The fame, indeed, of the first course spread all over the country. From Metz, on December 13, 1827, Arago writes:—'I hear you are going to give a course of lectures upon physical geography to the students at Berlin. Do you not intend to publish them? If you reply affirmatively I shall at once devote myself to the study of German.' That the interest excited by these lectures was not confined to tyros in science and art, is apparent from the fact that from notes made during these lectures, Waagen was incited to compile his essay on the development of landscape-painting, especially in the post-Roman period, the influence of which was subsequently traceable in 'Cosmos.'

It soon became no longer possible for Humboldt to restrict his lectures to the 'caps and gowns.' A second course before a more extended audience was announced to take place in the music hall. These were also delivered without a manuscript, and in contradistinction to Schlegel the admission was free. In a tone of hurt feeling, he wrote to correct a statement in the 'Moniteur universel' that he gave subscription lectures, the charge for the course being three louis d'or:—'In Germany, as in France, no money is taken at a *public lecture*.'¹ The lectures at the music hall were sixteen in number, and were delivered for the most part at intervals of a week between December 6, 1827, and April 27, 1828. The 'mixed character' of the audience,

¹ De la Roquette, vol. i. p. 271.

numbering about a thousand, 'from the king to the artisan,'¹ necessitated a more comprehensive and popular treatment than would have been requisite in other circumstances. It is to the endeavour to secure this object that we are indebted for the wonderful 'introductory remarks upon the various enjoyments afforded by the study of Nature and the investigation of her laws' comprised in the first forty pages of 'Cosmos,' which, with the exception of several subsequent alterations and additions, was written down from memory a few hours after the lectures were delivered.² These observations occupied the whole of the first and part of the second lecture, in which the equal importance of the various branches of science was also dwelt upon, and the influence they were capable of exerting upon national industry and the general prosperity of the community. Though it scarcely falls within our province to enter minutely into these lectures, so familiar now to everyone since the truths they teach have become the common property of every observer of nature in this century, yet the historical form of our narrative permits us to call attention to the influence they exerted at the time of their delivery. They boldly announced in no uncertain terms the change that had passed over the spirit of the age, and while reprobating in a tone of resignation the hasty and precipitate efforts of an absolute 'rationalistic school of scientific inquiry,' and censuring the extravagant speculations of the times, they elevated experimental science, descriptions of nature, and records of the world's history to the place of highest intellectual honour, attributing to them the progress of industry and the intellectual elevation of mankind. In these terms was set forth the spirit of the nineteenth century, the overwhelming realistic character of which is exhibited in its experimental philosophy and historical science, by means of which material and intellectual progress are secured to those nations who have learnt their value. When, on December 6 and 12, 1827, Humboldt, in the future capital of the German nation, soon to play so important a part in this century, gave public expression to thoughts that had till then floated almost unconsciously in

¹ F. von Raumer, 'Literarischer Nachlass,' vol. i. p. 22.

² See 'Briefe an Varnhagen,' p. 20.

individual minds, he was in reality revealing himself as the representative genius of the age, in whom was reflected the spirit of the times.

Moreover, these lectures were naturally of a slighter character than those delivered before the University. The descriptions of nature were for the sake of clearness extended over ten lectures, from the second to the eleventh: the next two lectures treated of the history of cosmography—‘history of physical science,’ as it is termed on this occasion in his manuscript abstract of contents—and then followed isolated ‘studies,’ thus indicated in the fragmentary notes:—‘Aspect and illusory effect of the Starry Heavens, Interference, Rays of Light, the Stars, the Southern Constellations, the Moon, Lunar Volcanoes, Aërolites, the Solar Spots, the Picturesque.’ The close of the winter season brought to an abrupt termination this somewhat heterogeneous list of subjects. Even in this second more public course of lectures, Humboldt did not fail to bring into notice his distinguished contemporaries in scientific labour—Seebeck, Encke, Bessel, Gustav Rose, Buch, Weiss, and others. As Schlegel is also alluded to, we may presume that during the introductory remarks he referred to Schlegel’s lectures as having served him as a model, and those who are familiar with his oratorical style will be able to figure to themselves the modest expressions he would make use of in regard to his own powers. Humboldt has on several occasions noted down the attendance of the king or crown prince.

It may readily be supposed that the lectures at the music hall created a greater sensation at Berlin than those delivered before the University. The following report appeared in the *Vossische Zeitung* on the day after the first lecture:—‘The grace and dignity of the delivery, the attractiveness of the subject, and the deep learning of the lecturer, who appears to have at his command an inexhaustible store of knowledge, present a combination of qualities so invaluable for oral instruction that the listener is enchained by an irresistible power. The audience was perhaps one of the most distinguished that ever filled a lecture-room. Their royal highnesses the crown prince and princess, with other members of the royal family, occupied the boxes, while the lower gallery was filled with ladies,

officers of state, generals, men of science, and distinguished literati.' At the second lecture the king unexpectedly made his appearance, accompanied by Princess Liegnitz; the presence of Gneisenau was also remarked, and it was noticed that the attendance was larger than before. Varnhagen observes:¹— 'With wonderful tact, the lecturer adapted his remarks to his unexpected auditors, and with consummate taste introduced his enlightened views in reference to national civilisation, the universal spread of knowledge, and the valuable services of his fellow-countrymen, in a manner peculiarly appropriate for the royal ear. At the third lecture the king was again present, and announced his intention of attending the rest of the course.'² If we may credit the remark attributed to him by Varnhagen, that the lectures seemed wanting in connection, and to consist merely of a mass of isolated facts, this is to be explained by the circumstance that he was himself no better able than the majority of the audience to follow Humboldt's line of thought. Respecting this very lecture, Bunsen wrote to his wife:³— 'I have never heard anyone in an hour and a half give expression to so many new ideas and state so many interesting facts.' Even the matter-of-fact Zelter felt touched with sympathetic emotion at the gratifying spectacle presented by such universal interest in science, and in writing to Goethe on January 28, 1828,⁴ he remarks: 'I must also mention the great pleasure I received from Humboldt's magnificent lectures upon the wonders of nature delivered before most distinguished audiences, to be counted by the thousand. I felt that a man was before me who was altogether after my own heart, who gives nothing but his own, and that without stint. He makes no money by the transaction, has no preamble, no humbug, and no artifice. Even when he errs one feels impelled to believe him.' It was decided to commemorate the lectures by a medal, bearing the device of the sun and encircled with the inscription 'Illustrans totum radiis splendentibus orbem,' of which the first struck was, on May 18, presented to Humboldt in the name of all his

¹ 'Blätter,' vol. iv. p. 349.

² Ibid. vol. iv. p. 352; he nevertheless did *not* attend regularly.

³ C. C. J. Freiherr von Bunsen, vol. i. p. 304.

⁴ 'Briefwechsel,' vol. v. p. 16.

hearers by a committee appointed for the purpose, consisting of Duke Charles of Mecklenburg, Von Buch, Von Witzleben, Levezow, Rauch, Friedrich Tieck, Lichtenstein, and Schinkel. The medal was presented as a memorial 'of the great interest that by means of the lectures had been excited in science, and of the powerful charm by which Humboldt drew together so rare an assemblage of persons of rank, high culture, and distinguished excellence.' It is unnecessary to make any reference to the various odes, sonnets, and doggerel rhymes in which the enthusiasm of numerous hearers—noble and plebeian, 'school-boys and school-girls'—found vent in pamphlets or in the periodicals of the day. The impression produced by the lectures may be summed up in the following striking words addressed by William von Humboldt to Goethe in a letter dated May 1, 1828:—'Alexander is really a "puissance," and has acquired a new kind of fame by his lectures. They are admirable. He is more than ever his former self, and is still characterised by a kind of shyness, an unmistakable anxiety traceable in his manner when presenting himself before the public.'

There was not wanting, however, a certain class of discontented and uninterested hearers. General von Witzleben, though among those who presented the medal, could not conceal his anxiety as to the injurious effect the lectures might produce, from their tendency to undermine the traditions of religion, since both the Humboldts were in his opinion too much inclined to be free-thinkers.¹ Hegel bitterly complained to Varnhagen of the severe censure passed upon his system of natural philosophy.² The manner in which Humboldt treated the passage about the 'saturnalia' when publishing 'Cosmos,' in after years, is too characteristic to be omitted. He judged it cowardly not to repeat the selfsame words which he had employed in censuring 'the *bal en masque* of natural philosophy run mad. One ought to have the courage to print what one has said or written within the last thirty years.' In the meanwhile, however, Hegel had died, 'and as I shall

¹ Varnhagen, 'Blätter,' p. 15.

² Not preserved by Varnhagen, but found in Humboldt's letter to Böckh of 1841, from which extracts have already been given.

not be able to avoid,' remarks Humboldt, in writing to Böckh in 1841, 'soon meeting in another world that esteemed individual, who has been so much belied, I think it will be in better taste for me to act as if I thought that he and Schelling, the authors of the new philosophy, were both undeserving of blame, and were irresponsible for the form in which their system had developed. I therefore speak of them as "earnest minds occupied simultaneously with philosophy and investigation,"¹ after which I proceed in a somewhat malicious spirit to quote the passage from Bruno in which it is asserted that philosophy often appears like the transient apparition of a meteor; while from Hegel I intend to add something of a deeper and more impressive character. I thus attain my end without expressing any admiration for either, yet showing most respect to Hegel, who has indeed succeeded in smuggling historical Christianity into philosophy.' At the same time that he so frankly characterised his line of conduct to Böckh as 'forbearance towards the departed Hegel,' and 'artifice, not goodwill,' towards Schelling, who was still living, he wrote to Varnhagen, the friend of Schelling, as follows:²—'The distinct assurance that my attack was not aimed at the founder of the school of natural philosophy will render it more easy for him to forgive my caustic severity;' he thus endeavours to deceive Varnhagen with the same 'artifice.' Yet a few lines farther on he expresses himself with much earnestness:—'It has been a lamentable epoch, in which Germany has sunk far below both England and France.' What an inextricable entanglement, will the reader exclaim, of intrepid boldness in regard to the truth of facts, and paltry circumspection in the matter of personal relationships, what a mixture of noble veneration displayed in the exercise of lenient indulgence towards the dead, and of unworthy malice, wounding where it flattered, towards the living! Such, however, was the character of the man, and we shall endeavour, ere concluding this biography, to portray in vivid outlines this strange contrariety of disposition. For the present we must return to the lectures.

With regard to the class of uninterested auditors, we may

¹ 'Kosmos,' vol. i. p. 69; also pp. 39, 68, 70, and 71.

² April 28, 1841, 'Briefe an Varnhagen,' p. 90.

mention the sensation produced, extending even as far as Königsberg, by an officer, who in publishing a birthday ode in honour of Prince Frederick Charles in a Berlin newspaper of March 20, inserted in the worst possible taste the words 'composed during a lecture by Humboldt.' The following ludicrous anecdote attests with cool irony the incongruity felt by the Berliners themselves between the scientific teaching presented to them by Humboldt, and the meagre receptive powers of the audience. A lady who attended the course of lectures, in giving orders for a dress, desired that the width of the upper sleeve should be equal to two diameters of Sirius.¹ Even Humboldt himself is said to have replied to an inquiry from Prince Augustus as to whether he really thought that the ladies attending his lectures could understand him: 'That is of no consequence; if they only *come*, that is all that can be expected of them!'² These incidents suggest a serious inquiry as to the practical results of these lectures, and how far Humboldt was conscious of their influence when deciding upon the prosecution of his undertaking.

We have already pointed out that at this period elegant literature formed the exclusive interest in all cultivated circles throughout Germany, especially at Berlin, and that while an appreciation for music and the fine arts was only beginning to be aroused, there was no prevailing tone of intellectual culture. The harsh reproach, though somewhat out of date when recently pronounced by Buckle, was nevertheless at that time perfectly true—that in Germany there yawned a mighty chasm between the study of science and the education of the people. The lectures upon the physical structure of the universe were the first efforts of any importance to bridge the gulf, for, in a scientific point of view, the efforts of the philosophers and critics of the Romantic School can scarcely be taken into account, since they were exclusively confined to æsthetic and ethical culture. That this bold attempt should have been made in the province of physical science at the very place where the gap was widest, could not fail to be productive of beneficial results. It would seem afterwards but an easy task

¹ 'Briefwechsel zwischen Goethe und Zelter,' vol. v. p. 11.

² Varnhagen, 'Blätter,' vol. iv. p. 335.

to direct the attention of educated circles to the less severe subjects of history, archæology, jurisprudence, and political economy. The effect was immediately apparent, and two other courses of public lectures—one upon Greece, and another on French literature—were announced for the following winter.¹ How great the change that has since been gradually wrought in the intellectual life of Germany! Even as late as 1842, at the very time that Friedrich von Raumer was founding in Berlin a Scientific Society for the delivery of lectures on scientific subjects, henceforth to constitute a permanent feature in the intellectual world of the capital, Savigny considered it as undignified and indeed utterly useless to address himself on scientific subjects to the crowd of the uninitiated. But the present race of scientific men act on an entirely opposite conviction. It might be almost said in jest that the sons of God had come down to the daughters of men. For by no means the least important result of these efforts is the sympathetic interest now evinced by ladies in intellectual subjects. Oral instruction presents the most efficacious means for reaching the lower classes of society—the labourer and the artisan. We have but to refer to the various associations of this kind established for the purpose of holding popular lectures upon scientific subjects. Nor should the reactionary effect be overlooked, which was visible in the literature of the day, whether of a scientific or purely literary character. Since that period it has become a noble ambition with scientific men to popularise the results of their labours; it is no longer considered that to write in a clear, concise, and forcible style is the distinctive mark of an amateur. The practice of writing essays has already become general in Germany, and has been productive of powerful results. A model of this kind of writing has been given by Humboldt in his ‘Aspects of Nature,’ while his elaboration of ‘Cosmos’ affords a masterpiece of popular scientific writing; in his lectures upon the physical structure of the universe he gave the first impulse to the development of the intellectual life of Germany, at a time when the present glorious position of the nation was hardly to be conceived.

That Humboldt was fully aware of the significance of the

¹ Varnhagen, ‘Blätter,’ vol. v. p. 241.

undertaking in which he was engaged may be inferred from the fact that he set himself to work in direct opposition to a school of philosophy which, notwithstanding the hollowness and instability of its scheme of science, assumed with lofty self-sufficiency the guise of a select community, and to secure the appearance of profundity adopted a misty and confused language. Nor has he left us in ignorance of the motives by which he was actuated. When invited by Raumer to take an active part in the formation of the Scientific Society, he declined to do so on account of his great age—72—which rendered him unable to speak in public with his former facility; at the same time he repudiated by a reference to the lectures of 1827 the insinuation of any aversion to the popularisation of science. ‘With knowledge comes thought,’ he adds, ‘and thought imbues men with earnestness and power. I was speaking to the king only yesterday in favour of your interesting project, while dining at Sanssouci. The constant change of subject and lecturer suggests something to me both piquant and entertaining. Whether an association of this character, that has for its object the establishment of some eight or ten lectures by various men of science every half-year, whereby several courses of lectures are simultaneously maintained, necessitating as many as three in a week, be not grasping at a little too much, I will not attempt at present to decide. “*Multa fiunt eodem sed aliter.*”’ And after the opening lecture by Raumer, he writes:—‘Accept my heartfelt thanks for the pleasure you have afforded me, and for the kind manner in which you alluded to my efforts. May the spread of intellectual culture impart that power of thought by which alone the mind can retain the knowledge already acquired.’¹ The reader will no doubt sympathise with Humboldt’s views as to the great utility of an effective course of lectures, and will be disposed to interpret the ironical remark about the attendance of ladies at the lectures of 1827 as a humorous mode of stating that the good effects of a beneficial act would not always immediately appear. How much he was at that time occupied with science, as applied to education, appears from a letter to

¹ Raumer, ‘*Literarischer Nachlass*,’ vol. i. p. 22, Nos. 11 and 12.

Dirichlet on April 9, 1828, in which he expresses the hope of establishing a school of chemistry and mathematics at Berlin: 'A thousand insurmountable prejudices oppose the formation of a veritable École Polytechnique.' During the same year, in writing to Bessel, he alludes to the influence he hoped to be able to exert upon education. In his reply of December 25, Bessel remarks:—'If by this means you succeed in spreading a knowledge of mathematics throughout Germany, you will have achieved a great work.' Bessel had already accomplished something to this end, so that mathematics were no longer neglected in the schools of eastern Prussia. 'But the predominance given to the study of languages must cease if the highest faculties of the mind are to be brought into active exercise.'

The extraordinary sensation created by the lectures at the University incited Baron von Cotta, in December 1827, to turn them to account as a publishing speculation. He was the senior in the firm and the publisher of the 'Horen,' and was, as described by Humboldt,¹ 'a strange mixture of generosity and avarice, of restless energy, and a hopeless want of method in matters of business.' He proposed to Humboldt 'that the lectures should be taken down by an experienced short-hand writer, and revised by Humboldt after every lecture, when the manuscript was to be forwarded to Stuttgart, to be at once sent to press, and returned in sheets.'² Cotta offered Humboldt 5,000 thalers, on the supposition that the work would occupy forty-five sheets, yet notwithstanding the brilliant character of this proposal, Humboldt would not allow himself to be entangled in any hasty engagements. 'For,' as he remarks, 'of all human interests, none touched him so nearly as those of science, by which a knowledge is acquired of the structure of natural substances, and of the laws regulating the forces of nature; to these all other interests are subordinate, pre-eminently those of a pecuniary nature.'³ With a tact worthy of imitation in the present day, when lectures are sent to press,

¹ To Schumacher, May 1, 1837.

² 'Briefwechsel A. von Humboldt's mit Berghaus,' vol. i. p. 117, &c.

³ Letter to Berghaus of June 20, 1828. Ibid. p. 185.

and books are read out from the lecturer's chair, he carefully discriminates between the sphere of a lecturer and the work of an author. 'Everything spoken in a lecture,' he replies, 'is not in a form fit for publication; that which is intended for the press, and designed by this means to be preserved to futurity, ought to be carefully weighed and considered, then written down, revised, refined, and sifted, and lastly authenticated by notes giving authorities and quotations.' In this passage we have a picture of the painstaking labour bestowed upon 'Cosmos,' and we shall learn hereafter the full meaning intended to be conveyed by Humboldt in the terms 'revised, refined, sifted, and authenticated.' He nevertheless at once embraced the idea of compiling from the notes for the lectures a book upon physical geography, and immediately asked Berghaus to commence the preparation of an 'Atlas of Physical Geography.' The execution of this undertaking was long delayed in consequence of the expedition to Asia, and the discovery in Paris by Humboldt, in 1832, of a map of the world by Juan de la Cosa, by which his mind became diverted to other important schemes.

If by these lectures Humboldt had done much towards removing the principal impediment to the intellectual progress of Germany, by bringing the educated public into closer sympathy with scientific labourers, the interest he took in the institution of the Scientific Association materially assisted in removing the evil arising from the isolation of men of science engaged in the same field of labour—which had always proved a formidable barrier to the advancement of science, and which was doubtless due in part to the political disruption of the country. Many years previously, Humboldt had conceived the idea of establishing, by means of annual gatherings, a closer bond of union among isolated men of science, but he was prevented by his prolonged travels from accomplishing his wish, and during his residence in Paris, where everyone lived in close association, the want was not apparent. In the meantime an assembly of natural philosophers and physicians was held for the first time at Leipzig in 1822, at the instigation of Oken, whose fame will be held in more lasting and grateful remembrance for his patriotism and liberal views than for his achieve-

ments in science. Associations of a similar character had since been held every autumn, and had excited universal sympathy, for they were felt to be the expression of the general yearning for national unity. They were also regarded with favour by Government, as they seemed to provide a means of diverting the dreaded tendency to political combinations. The second meeting of the Association, held at Halle in 1823, was not only honoured by the patronage of Altenstein, but received from the king himself, by an order in council, the expression of his warm approbation and interest.¹ No less gracious was the reception accorded to the Association at Dresden and at Munich in the years 1826 and 1827.² In determining the place of meeting for the ensuing year—1828—a discussion arose as to the rival claims of Berlin and Breslau, and it was principally owing to Humboldt's influence with the king and the scientific men of Berlin that preference was given to the capital. Lichtenstein, the rector of the University, was commissioned to be the bearer of the invitation. He was appointed to be secretary and Humboldt president of the committee for organising suitable arrangements for the reception of the Association. Herr von Kamptz expressed uneasiness at the idea of Oken, with his known democratic tendencies, making his appearance at Berlin, while Humboldt urged that he should be invited to show that his influence was not feared: this decided the course of the king, who was thus convinced that the matter could in no way prove prejudicial to the crown, and testified his acquiescence accordingly.³

Persistently as Humboldt afterwards endeavoured to attribute the merit of the successful arrangements to Lichtenstein, he was yet most indefatigable himself in securing the brilliant success of the meeting by procuring the attendance of the most distinguished men of science and arranging for their reception. 'During the sojourn of the philosophers,' writes Zelter to Goethe on August 30, 1828, 'it seems that all our great guns are to be fired off in succession. Alexander von Humboldt

¹ Varnhagen, 'Blätter,' vol. ii. p. 435.

² Ibid. vol. iv. pp. 121, 327.

³ Ibid. vol. iv. p. 327; see 'Briefwechsel zwischen Goethe und Zelter,' vol. iv. p. 381.

and Lichtenstein are unceasingly occupied with preparations for the reception of such distinguished guests, and in fact when the time comes it will be seen that liberal hosts attract noble guests.¹ A work of still greater importance was securing the active participation of men of scientific distinction. As early as May 25, 1828, Humboldt writes to Schumacher:—‘I am endeavouring to persuade Herr Gauss to attend our philosophers’ *fête* on the 18th of September.’ He was also anxious to prevail on Schumacher to be present:—‘Only through names like these can the splendour of such an assembly, grown unfortunately to such unwieldy dimensions, be insured.’ On July 18, he sent from Teplitz the official invitation to Gauss, whose presence he was particularly anxious to secure. On August 14, upon his return from Teplitz, he again wrote from Sanssouci, where he was spending a few days with the crown prince, repeating his invitation in the most affectionate terms, and offering to receive him into his own house, where he should enjoy every comfort and the most perfect freedom, though he could but place one room—that, however, a large one—at his disposal. ‘You will find a hearty welcome at my house, though, on account of my bachelor loneliness, it has not many charms to offer you.’ On September 8, after expressing the liveliest satisfaction at his acquiescence, he continues:—‘On the 18th I am to give an opening address, and on the same evening I shall expect your presence at a small entertainment I am going to give to 600 of my *friends* in the concert-room of the theatre. The king and crown prince have promised to attend.’ He was by no means insensible to the ludicrous aspect presented by the Association. In writing to Decandolle at Geneva, on August 18, he says:—‘I do not tell you of the 400 scientific friends whom I am expecting from Germany and Scandinavia. Such an invasion of philosophers is enough to make one tremble.’² He wrote in a similar strain to Dörichlet on August 10:—‘Shall we not see you during the *occasion* of philosophers? or do you dread the chaos of this *literary fair*?’ Then, with sudden change of tone, he

¹ ‘Briefwechsel zwischen Goethe und Zelter,’ vol. v. p. 104.

² De la Roquette, ‘Humboldt, Correspondance,’ vol. i. p. 274.

adds:—‘There is, however, a serious side to this subject, it is a noble manifestation of scientific union in Germany; it presents the spectacle of a nation divided in politics and religion revealing its nationality in the realm of intellectual progress.’

It was the recognition of the national importance of the Association that gained for the meeting such an enthusiastic reception from all classes at Berlin.¹ ‘For the first time every variety of German dialect was heard in the same assembly; everyone crowded round Oken, to whom Germany was indebted for this bond of union from which foreigners were not to be excluded. Nor had the inhabitants of other lands failed to hear the call: the Scandinavians, mindful of their ancient tie of kinship, and not as yet separated from sympathetic interest in Germany by the distractions of political strife, sent their best champions to the Association, Berzelius attending as the representative of Sweden, and Oersted of Denmark. For the entertainment of such foreigners a host of distinction was needed,’ and Humboldt was elected president of the Association: his opening address, delivered in the music hall on the morning of September 18, has been justly designated by one who was present as ‘a masterpiece, distinguished as much by its intrinsic worth and power as by its eloquence and candour;’ it is as follows:—

‘Since it is to the favour of your votes that I owe the distinguished honour of presiding over this assembly, my first duty shall be the expression of my gratitude. This mark of distinction conferred upon one who has not before been privileged to attend any of your meetings, is not to be looked upon merely as a recompense for a few feeble efforts in the cause of science, to discover amid a multitude of phenomena some guiding principle, and to shed a gleam of truth upon the perplexing mysteries of nature; feelings of a tenderer character have influenced you in this choice. In this mark of favour I read the acknowledgment that during an absence of many years in a foreign country, while engaged in working in sympathy with my friends at home towards a common object, I was never unmindful of my native land. The gratifying

¹ We are indebted for the following to H. W. Dove, ‘Gedächtnissrede auf A. von Humboldt,’ pp. 5 and 6; Varnhagen, ‘Blätter,’ vol. v. pp. 313–317, and several of Humboldt’s unpublished letters.

welcome you have accorded me cannot fail to add the sacred ties of gratitude to those already binding me to our common fatherland.

‘How could this national unity be more forcibly expressed than by this Association, gathered for the first time within these walls? From the smiling valleys of the Neckar—the birthplace of Kepler and Schiller—from the eastern boundaries of the plain of the Baltic, and thence to the mouths of the Rhine, where the emporiums of commerce have been for centuries enriched by the treasures of nature in their exotic loveliness—the students of science, animated by the same zeal and inspired by the same thought, have gathered together to this assembly. Wherever the German language is spoken, influencing by its thoughtful structure the mind and character of the people—from the snowy regions of the Alps to the farther shores of the Vistula, where, in the land of Copernicus, astronomy is once again cultivated with glorious results—everywhere where the German has penetrated, he has been distinguished by the endeavour to search out the secret workings of the forces of nature, whether in the realms of space, amid the problems of mechanics, in the unyielding crust of the earth, or in the structure of animal organisms.

‘Beneath the protection of noble princes, this Association has yearly grown in interest and importance. Every element of disunion, arising from religious differences or political opposition, is here laid aside. Germany manifests herself in her intellectual unity; and as the acknowledgment of truth and the inculcation of duty is the highest aim of morality, so this feeling of unity can never weaken in any of us the bonds that endear us to the religion, the constitution, and the laws of our country. Even amid the disunion in the political life of Germany, this emulation in intellectual effort may yet be productive—as the glorious history of our country proves—of the grandest results in the cultivation of benevolent feeling, the increase of knowledge, and the advancement of art.

‘The association of the scientific men of Germany has had reason to rejoice since its last meeting at Munich, where it met with such a hospitable reception, in the lustre it has acquired through the flattering sympathy of neighbouring states and

scientific institutions. The Scandinavian races of the North have wished to renew the bond of kinship anciently existing between them and Germany. A sympathy of this kind deserves all the more acknowledgment on our parts, since it promises to augment in an unexpected manner the mass of facts and opinions which are here brought under discussion. Such a meeting cannot fail to arouse in the memory of every student of science associations of an exalted character. Though scarcely separated from us by the space of half a century, the noble form of Linnæus stands out conspicuous, and from the boldness of his undertakings, the importance of his achievements, and the influence he exerted on others, he deserves to be ranked among the great men of a former age: yet his fame, great as it is, has not rendered Europe insensible to the merits of Scheele and Bergmann. Worthy successors of these great men have not been wanting, but the fear of wounding a noble modesty checks me from alluding here to the light which still pours in a powerful stream from the North, or from touching upon those discoveries which have revealed to us the chemical nature of substances with regard to the numerical proportion of their elements, and the forces of the electro-magnetic current. It is to be hoped that the example of the distinguished men who from Sweden, Norway, Denmark, Holland, England, and Poland have encountered the fatigue of a long sea and land journey to join our Association, will in future years incite other foreigners to similar efforts, so that every part of Germany may in turn enjoy the stimulating influence of scientific communication with the various countries of Europe.

‘If, however, in the presence of this assembly I am prevented from giving expression to my personal feelings, I may at least be permitted to mention the names of those patriarchs of national celebrity who are debarred by the infirmities of age from mingling with us on this occasion:—Goethe, whose grand creations of poetic fancy in no way restricted him from directing the scrutinising glance of scientific inquiry into the deep mysteries of nature’s laws, and who now, in the retirement of his country life, grieves for his princely friend as Germany mourns the loss of her brightest ornament; Olbers, to whom we are indebted for the discovery of two heavenly bodies whose

existence he had by theory been able to predict ; Sömmering, the most distinguished anatomist of the age, who, with an eagerness equal to that with which he investigated the marvels of organic structure, has examined the solar faculæ and spots—those openings and thickenings in the undulating sea of light ; and lastly, Blumenbach, my teacher, who by his writings and animating lectures has everywhere kindled the love of comparative anatomy, physiology, and natural philosophy—a love which he has carefully nurtured as a sacred flame for more than half a century. Shall I not be excused for yielding to the temptation offered me by the absence of these great men to ornament my address by names which will continue for ages to be held in veneration ?

‘ These observations upon the intellectual wealth of Germany, with which the progress and development of our Association is so closely connected, naturally lead me to the consideration of the obstacles presented to securing the advantage of united effort in any important scientific undertaking. The chief object of the Association, as stated upon its institution, is not like that of other academies, where the members, forming a restricted community, meet for the communication of papers or the delivery of lectures, which, being intended for publication, are at the close of the annual session printed in the Society’s memoirs. The object of this Association is to bring into personal contact those who are labouring in the same field of science, to secure verbal, and therefore the most effective, interchange of ideas, whether concerning facts, opinions, or even doubts, and to give opportunity for the formation of friendly relationships, by which scientific knowledge may be increased, the pleasures of life heightened, and forbearance and gentleness promoted.

• The ancient Greeks, who attained an unexampled height of intellectual culture, and whose latest descendants, saved as it were from the wreck of nations, are still the objects of our keenest solicitude, exhibited during the splendour of the Hellenic age their keen appreciation of the vast difference between speech and writing. It was not alone the difficulty of interchanging ideas, nor the want of that art given to the world by Germany, whereby thought as on wings is spread

through the length and breadth of the earth, and endowed with enduring existence, that led the ancient philosophers in search of sympathetic intercourse to undertake long journeys from their home in Greece, or in the Doric and Ionian colonies in Magna Græcia and in Asia Minor. That ancient race knew the value of living words, the animating influence of contact with a master mind, and the enlightening power of converse when of a free, unpremeditated, and discriminating character, on subjects connected with science and philosophy. Without a diversity of opinion the discovery of truth is impossible, since truth in its entirety cannot be seen and recognised by all at once. Every step taken in advance by the student of science leads him to the entrance of a new labyrinth. The mass of doubts, so far from being diminished, are rather seen to spread, like a moving film of cloud, from one field of research to another. Those who regard as a golden age the time when diversity of opinion, or, as it is usually termed, the disputes of the learned, shall be completely adjusted, exhibit as little insight into the requirements of science and its ceaseless progress as those who, in idle self-sufficiency, boast that they have maintained during a long life the same views in geology, chemistry, and physiology.

‘The founders of this Association have, with a keen perception of the unity of nature, united in the most intimate manner every branch of physical science, whether prosecuted by description, measurement, or experiment. The physicians among our members may also be ranked as scientific investigators. Connected physically with the type of a lower order of form, man completes the series of higher organisms, while, considered physiologically and pathologically, he scarcely offers a distinct class of phenomena. All that relates to this important branch of medical study, which may be considered as a department of natural science, belongs in a peculiar manner to this Association. Important as it is not to loosen the tie that connects the investigation of organic and inorganic nature, the increasing compass and gradual development of this Society seem to render it necessary that, in addition to the public assemblies to which this hall is devoted, sectional meetings should be instituted for the reading and discussion of papers

of a more detailed character. It is only amid a restricted circle, where men are mutually drawn together by similarity of pursuit, that *viva voce* discussions become possible. Without an arrangement of this kind, whereby any natural product could be exhibited and the difficulty of description—so often the occasion of contradictory views—obviated by ocular demonstration, the free interchange of thought between men in search of truth would be deprived of its most essential element.

* Among the arrangements made by this city for the reception of the Association, particular attention has been given to render such a subdivision possible. In expressing the hope that these arrangements may meet with your approval, I feel it to be a duty to remind you that although they have been committed to the charge of two of the committee, it is to one only—to my noble friend Herr Lichtenstein—that the credit is due of carrying out the plans with so much foresight and indefatigable activity. With a keen appreciation of the scientific spirit by which the Association of the Physicists and Physicians of Germany is animated, and sensible of the utility of their efforts, the Minister for Public Instruction has, during the past four months, met the expression of our slightest wish with the most self-sacrificing alacrity.

* In the immediate vicinity of the place of assembly, which, in accordance with these views, has been fitted up both for general and sectional meetings, stands the Museum, devoted to collections illustrative of anatomy, zoology, geology, and mineralogy. The scientific investigator will there meet with rich material for observation, and many objects for critical discussion. The greater part of this well-arranged collection does not date farther back than the establishment of the University of Berlin, which was founded scarcely more than twenty years ago: the older portion, in which is included the Botanic Gardens—one of the richest in Europe—has during this period not only been increased, but entirely rearranged. The pleasure and instruction afforded by such an institution cannot fail to awaken feelings of gratitude towards that august monarchy whom it has been founded, who, with the absence of ostentation characteristic of true greatness, has been adding year

by year new treasures of art and wonders of nature for the adornment of the capital, and accomplishing the still more important task of encouraging among the Prussian people the free development of intellect, and inspiring them with a hearty devotion to the ancient reigning house, by according the royal protection to talent, in whatever form it may be exhibited.'

It will scarcely be necessary to enter into an analytical discussion of this speech, in order to bring out the full beauty of this masterpiece of rhetoric. With a graceful turn, the speaker passes in the opening of his address from a modest reference to his own position to the influence the Association would exert upon the interests of his country. While giving distinct prominence to the intellectual unity of the nation, he does not omit to point out the greater facility in the growth of scientific culture undeniably afforded by its disconnected political existence. After referring to the international character of science, he is naturally led to accord a greeting to the foreign visitors, touching with the most delicate tact upon all personal relationships. Lauding without reserve the illustrious dead, of the living leaders of science he refers only to the absent by name, while of those present he alludes to the distinguished foreigners Berzelius and Oersted only by a reference to their valuable labours; to his fellow-countrymen of a later generation he makes no allusion, with the exception possibly of Bessel, who unfortunately was unable to attend. While gratefully acknowledging the indefatigable assiduity of Lichtenstein, and tendering his thanks for the ready assistance of all public officials, he concludes by an allusion to the king, couched in terms of most exalted praise, yet so framed as not to hide the weakness of his character. The second and most important part of the address is remarkable for the clearness in which, without exaggeration, he sets forth the value of the Association in establishing the reciprocal relationships between various scientific men, the effect of which he estimates in the spirit in which it was valued by the ancients. He then adds in a few words the announcement of a practical innovation he had ventured to introduce in the institution of sectional meetings. Such an arrangement was in fact the only means of securing practical results from the aimless generalities

brought before the attention of the Association. Its necessity had become evident to Humboldt from the immense field of labour afforded in each department of science. It was principally through the introduction of these sections that the meeting at Berlin in 1828 became a marked epoch in the history of the Association. If its remembrance was long cherished by all who took part in that assembly, the cause may truthfully be ascribed to the successful manner in which Humboldt fulfilled his duties as host.

The entertainment of the '600 friends' referred to in the invitation to Gauss, took place at the theatre on the evening of the 18th. 'Herr von Humboldt gave a tea,' relates Varnhagen, 'to which half the town was invited; the king looked on from the royal box, while the crown prince along with the other princes mixed with the company below, and entered into conversation both with foreigners and Germans.' The crown prince and the Duke of Cumberland had been present at the opening meeting in the forenoon. 'The *fête* was of great magnificence; a large transparency designed by Schinkel displayed the names of illustrious Germans, distinguished in the past for their achievements in science'—at the head stood Copernicus and Kepler—the hospitality was profuse; the flow of conversation was broken at intervals by music and singing; the guests assembled at six, and dispersed soon after nine o'clock.' Equally agreeable were the meetings for the mid-day meal in the riding-school, where even the ill-disposed were warmed into good-humour. Herr von Kamptz was seen walking to table arm in arm with Oken, apparently in a state of extreme satisfaction with his new acquaintance. Humboldt was everywhere present, at the various sections, at the general meetings, at the botanic garden, and between whiles in this or that 'mauvaise taverne,' as, with the luxuries of Paris fresh in his memory, he termed the various refreshment-rooms, ordering a breakfast for Gauss or Muffling, Radowitz or Dirichlet, for Berzelius, Heinrich Rose, and Magnus, or perhaps a dinner for Babbage. In the presence of Babbage he suspected the cause of the absence of Sabine, whose name he had 'with pride inserted in the list of the 400 expected guests and combatants;' for, as he used to say in jest, 'among two Eng-

lishmen there are always three who have quarrelled !' As the '400 nomadic friends' gradually dispersed after a week's sojourn at Berlin, the feeling arose that 'the meeting had been productive of great mental stimulus, and that the most favourable impressions had been both given and received.'

In order to form at this distance of time a just estimate of the importance of the meeting of 1828, it will be necessary to follow the subsequent development of this Association as effected by the revolutions of time. The splendour lent to the Association from the fact of its being the only exposition of the ideal unity of the nation gradually faded, as this idea became more widely disseminated and the real unity of the country was developed, until at length the endless multiplicity of societies of all kinds culminated in the existence of a united Germany, which in the grandeur of its political combinations cast the preliminary Association, based merely on intellectual interests, entirely into the shade. Although the scientific value of these meetings was at first estimated so highly that other European nations thought them worthy of imitation, it cannot be denied that their importance in a purely scientific aspect gradually fell in the estimation of the men of greatest distinction. The principle of association, though justly employed in the present day universally in matters of a practical nature, has never proved itself of great value where theory alone is concerned. Even the sectional meetings, owing to the want of plan and the course of the discussion being left to the guidance of chance, have but rarely been productive of important results; too frequently have they only served to bring into prominence the views of those who have been justly denied a hearing through the ordinary channels of scientific communication, and who have been thus enabled to publish to the world, with much assumption, their presumed discoveries and their ill-devised schemes. The social influence, therefore, of these meetings, regarded by Humboldt, even in 1828, as one of their most important aspects, has in consequence gradually acquired an increasing value; but even this advantage has been considerably impaired, since it degenerated after the usual German fashion into the unintellectual form of feasting; while, on the other hand, the necessity of maintaining personal inter-

course among scientific fellow-labourers by means of stated yearly meetings has been almost entirely superseded by the greater facility of communication afforded in modern times.

We should not have allowed ourselves to have alluded here to the well-known history of this noted Association, had not these facts been necessary in explaining the course subsequently pursued by Humboldt with regard to the meetings. He reverted to the meeting held at Berlin with all the more pleasure because, from the prominent position he had been accustomed to occupy among the intellectual circles of Paris, he was by no means insensible to the charm of being himself the centre of a social gathering of this nature. He was exceedingly anxious that his Parisian friends, who were members of the Institute and to whose good opinion he was always keenly sensitive, should fully comprehend the nature and importance of the Association. 'Nothing can be more flattering to my country,' he remarks,¹ in writing to Geoffroy Saint-Hilaire, on January 24, 1829, 'than the interest you have condescended to take in the annual gathering of the scientific men of Germany. Allow me in the first place to express to you my fervent gratitude. We have not felt disposed to interpret the absence of the scientific notables of La Belle France as any token of want of sympathy with our undertaking; we know too well the obstacles that are presented to a journey here, by the lateness of the season, our remote position, and the difficulties of the language. It is one of the characteristic traits of the age that the prejudices by which persons equally imbued with a desire for the advancement of science have been hitherto kept apart are being gradually dissipated. The scientific Association over which I had the honour of presiding this year is in no sense an academy, academic rules are even banished from its programme. It grants that liberty in the expression of diverse opinions which is often too much constrained by the monopoly of an academy, but which is as indispensable to the progress of intelligence as civil liberty is to the progress of industry and the arts. . . . It would be unfair to judge the Society either by the number of members or the papers that are read before

¹ De la Roquette, 'Humboldt, Correspondance,' vol. i. p. 274, &c.

the meetings. In the assemblies there is generally too great a preponderance of medical men ; no one being excluded from the Association who has published a book of twenty sheets. The real object of the Society is not to be interpreted by the papers read at the public meetings. The inestimable advantage afforded by such an association is the personal intercourse secured to the scientific men of Germany, Sweden, Denmark, and Holland, whereby they are enabled in the course of three weeks to learn more from the discussions held there than could otherwise be obtained from prolonged journeys. There are sections devoted to physiology, zoology, and botany, where discussions may take place and drawings and objects of interest be exhibited. These sectional meetings or scientific *réunions* excited great interest at Berlin, and have left their impress upon the minds of those who are capable of entering into a discussion without employing a despotic spirit in the search after truth. Many individuals hitherto unknown, though deserving of public attention, are by this means brought before the scientific world. . . . The meeting here received additional lustre from the interest shown by Government, the beauty of the rooms appropriated to the meetings, the presence of the king and the royal family, and the large concourse of remarkable men who otherwise might perhaps never have met.' Though Humboldt endeavoured by this brilliant description to entice his Parisian friends to attend the next meeting at Heidelberg, he yet discountenanced sending any official invitations, and instanced in support of his opinion the unsolicited attendance of most of the noted men of science from the northern nations of Europe.

To Humboldt the bright side of the picture gradually faded as the dark side came more prominently into view. Though at first frequently prevented from attending the meetings of the Association by visits to Paris, and in 1829 by his expedition to Asia, he was present at Breslau in 1834, at Jena in 1836, and at Göttingen in 1839, in order to 'exhibit his marionettes,' as he termed the papers he prepared for these meetings; the meeting at Göttingen was the last that he attended, partly on account of increasing age, and partly through a diminished interest in the Society. As early as 1832, he remarks in a

letter to Cancrin¹ that, in order to avoid interruption to his work, he had not followed the nomadic philosophers to Vienna, 'where in the midst of endless feasting the vanity of the learned finds gratification.' When making arrangements for visiting Göttingen on the occasion of the jubilee of the University in 1837, Humboldt writes from Teplitz on July 29, to Gauss, in accepting the hospitality of the guest whom he had entertained at Berlin in 1828:—'I have been fighting a hard battle here in Bohemia with Count Sternberg. It is thought quite incredible that I should not give the preference to the meeting of the nomadic philosophers at Prague. I boldly justified my decision on the ground of having once been a student at the University of Göttingen, and of the promise I had given many years ago to your own sovereign and the Duke of Cambridge. The more important reasons which actually influenced my decision it was impossible for me to adduce. A few hours' intercourse with you, my dear friend, will be more highly prized by me than all the meetings of the so-called natural philosophers, who move about in such immense masses, and with such a mania for feasting, that the kind of scientific intercourse one is able to enjoy is most unsatisfactory. I have often asked myself at the conclusion of one of those meetings the question put by the mathematician after the opera: "Enfin dites-moi franchement ce que cela prouve?"' In another letter, of August 5, he ridicules the 'enormous preparations made for feasting the nomadic philosophers' by whom 'science is made to dance for the amusement of the public.' Again, in writing to Schumacher on September 26, 1847, when referring to his visit to Paris at the beginning of October, he remarks:—'I hope that by that time the nomadic philosophers, with their roving propensities and love of music and feasting, will have dispersed to their several homes from the unscientific region of Arc-la-Chapelle. The whole affair has unfortunately degenerated into a mere theatrical spectacle, and on this occasion it has proved exceedingly tame and paltry.' He not only refused invitations to Scandinavia and Switzerland, but declined a proposal to preside at a congress of European *savants* to be

¹ 'Im Ural und Altai. Briefwechsel zwischen A. von Humboldt und G. Graf von Cancrin,' p. 43.

convened in the autumn of 1842, where he was asked to deliver the opening address, and even advised Murchison to abandon the scheme.¹ Notwithstanding his failing interest in the Association, he never failed to receive from the various scientific meetings in Germany, however remote the place of meeting, assurances of the honour and esteem in which he was held. Since the telegraph has become the ready messenger of all kinds of toasts and congratulations, he received a large accession to the birthday greetings which were presented to him every 14th of September, to all of which he replied in the most gracious manner. In his letter of April 29, 1858, declining the invitation to attend the meeting at Karlsruhe, the last which was held during his life, he repeated the acknowledgment that the Scientific Association of Germany remained as a faintly luminous image of the mythical union of his country.

One great enjoyment procured for Humboldt by the literary fair of 1828 was 'the pleasure of furnishing hospitality to his excellent friend Gauss.' He was 'charmed with his society in familiar intercourse. His manner to strangers is certainly of an icy coldness, and he is exceedingly unsympathetic for almost everything that lies beyond the immediate range of his own investigations. You, my dear friend, have a much nearer road to both the mind and heart.' Thus wrote Humboldt to Schumacher on October 18, while the impressions produced by the visit of the greatest mathematical genius of the age were yet fresh upon his mind. We shall often have occasion to refer to the scientific relationships maintained between these distinguished men, but we may avail ourselves of the present opportunity to describe the personal connection they mutually sustained, and the efforts made unceasingly by Humboldt to procure an appointment for Gauss at Berlin. On his return from America in 1804, finding 'the name of Gauss exciting universal attention in the scientific world of Paris, on account of his investigations into the theory of numbers,' he urged upon the Academy of Sciences at Berlin the propriety of summoning the great mathematician to the capital. When invited by the king to

¹ De la Roquette, vol. ii. pp. 200, 326.

take an active part in the management of the Academy, he replied that 'his presence would not prove of any remarkable value, but that he could point to *one* capable of investing the Academy with fresh glory, and that was Karl Friedrich Gauss.' But 'indecision is a characteristic of German ministers,' he sadly remarks, in reference to the want of success that attended his efforts on that occasion. The history of the subsequent fruitless endeavours during the four years between 1821 and 1825 to secure an appointment for Gauss at Berlin is described by Humboldt as 'disgusting and truly German.' 'When I left Paris in 1827,' he adds, 'and took up my residence here, Gauss began to experience some regret, since he would have been very glad to have found himself in my vicinity.' This feeling was no doubt considerably strengthened by his sojourn with Humboldt in 1828. Caring little for the heterogeneous proceedings of the meeting, and by no means fitted for such scientific fairs, his chief pleasure was derived from the 'sagacity and penetration' of Wilhelm Weber and the society of Humboldt, with whom he felt 'happy.' These two men, gifted with a genius so diverse that a comparison between them, though frequently attempted, has never seemed possible, were able, notwithstanding, fully to appreciate each other. It is touching to notice how the great mathematician expressed, in a manner altogether his own, his affectionate regard for his highly-gifted friend.

'We Germans,' he wrote to Humboldt on December 7, 1853, 'take greater pleasure perhaps than any other nation in celebrating certain days, such as birthdays, jubilees, &c., which stand related to persons or events which have become endeared to us. To the geometrician, in whose eyes indefiniteness and caprice must always be repugnant, as opposed to that which is definite and absolute, there seems a slight impropriety in the fact that the reason why one day is fixed upon in preference to another, is somewhat dependent upon chance, upon the arrangement of our almanac, the institution of leap-year, and, as far as a jubilee is concerned, in the existence of our decimal system; in other words, therefore, in this particular instance, upon the circumstance of our having five fingers upon each hand. Do you inquire why I trouble you

with such trivial reflections? It is because the day after tomorrow, the ninth of December, I cannot omit celebrating with some emotion an event the great importance of which is entirely unaffected by any such chance. It is the day in which you, my revered friend, will enter upon a period of existence to which none of the present leaders of the exact sciences have as yet attained, the day on which you will reach the same age at which Newton closed his earthly career, on the 30,766th day of his existence. And while at this period Newton's powers were completely exhausted, you are, to the great delight of the scientific world, still in the vigorous exercise of your faculties.'

A year later, amid the sufferings of his last illness, he consoled himself under the fear that advancing age might bring an increase of his malady by the thought of *his* Humboldt, an epithet he was never known to apply to any other person. He repeatedly read and caused to be read to him the last letter he had received from Humboldt, which had given him extreme pleasure. 'I am grieved to hear,' wrote Humboldt on December 4, 1854, 'that your sufferings increase both in "number and intensity." I beseech you in the name of all who have any concern in the glory of Germany to do all you can for the preservation of the powers still left to you. Alleviation is a measure of cure. He who has achieved so many intellectual triumphs, who was the first to impart certainty, order, and guidance to the language of electricity, in which converse is now held across land and water—should not fail to find sources of mitigation in the contemplation of all he has accomplished.' In addition to this cordial acknowledgment of his unexampled achievements in science, this exalted mind, to whom everything of mediocrity was repulsive, dwelt with peculiar pleasure during these last days upon a small correction Humboldt had ventured to introduce in his translation of Arago's works, where, with the full approval of Dirichlet, he had reduced the number of those whose investigations had entitled them to be considered 'of true mathematical genius' from ten, as it stood in the original, to eight. We learn, moreover, that the sufferer reluctantly put away 'Cosmos,' as unable to afford him, in his religious needs, the support of which he stood increasingly in want as death

approached; for Gauss departed in the 'fullest conviction of his immortality, and with the bright expectation that in a future existence he should acquire still deeper insight into the properties with which number had been endowed by the Creator, the glorious mysteries of which he should then perhaps be able to apprehend, for, as he remarked, *ὁ Θεὸς ἀριθμητίζει*.¹ Upon other occasions he had greatly rejoiced at the prospect of 'Cosmos' being completed, 'a work so overwhelmingly rich in material.' He hoped in the fourth volume to learn much upon subjects with which he was but slightly acquainted, and felt exceedingly anxious that Humboldt should further elucidate the portions of 'Cosmos' treating of living organisms.²

Widely as Humboldt differed from Gauss in his views on politics and religion, he ever cherished towards him the highest veneration. Although he 'could make no pretensions to follow him in the higher branches of mathematics,' and when studying his works had to seek from Jacobi an explanation of the difficulties 'which lay beyond the narrow boundary of his horizon,' yet he was sensible that 'by confidential intercourse with such a mind his apprehension was quickened and his power of comprehension enlarged.' He was keenly alive to 'the attractive force possessed by superior minds,' and felt, 'as befitted an old geologist, that, notwithstanding his gradual petrification, commencing at the extremities, his heart had not yet grown cold, but seemed to beat with renewed vigour in affection for those who could direct a gleam of light into the profound depths of nature's complicated phenomena,' &c. Through this cloud of incense, it is yet evident that his instincts led him to form a just estimate of that which he could not fully comprehend. It was by following out this instinct that he was led to labour unremittingly to secure an honourable position in Berlin for a fellow-countryman, who was undoubtedly the first mathematician in Europe. For eight years after the meeting of the Scientific Association in Berlin, he lost no opportunity of urging forward 'the long-cherished wish of his heart,' and in

¹ From a letter addressed to Humboldt by Baum on May 28, 1855, giving an account of the last hours of Gauss. The remark relating to 'Cosmos' was communicated verbally by Sartorius to Bruhns.

² Letter of May 10, 1853.

Gauss securing to the Academy 'another Lagrange;' but the state of the public finances was never such as to render the prosecution of his plan feasible. 'The frigid zone,' he complained, 'extends much farther south than anyone would suppose from Cousin's flattering description.' 'In the mare cœnosum,' as Schumacher ingeniously remarks in reference to this subject, 'everything suffers shipwreck upon the silver rocks.' He was therefore obliged to be satisfied with constituting himself the friend of Gauss. And when on one occasion he had reason to sigh over the 'display of a pettiness and illiberality common to an irritable character,'—in a matter connected with 'the imperishable fame of the great geometrician,' the method of taking magnetic observations—he speedily gave way, with his customary gentleness, and, 'glad as he usually was to oppose the aristocracy of science and to endeavour to accustom its most distinguished members to live in less haughty isolation, he yet subjected himself to the reproach of hastening to the help of the mighty.' He begs Schumacher 'to make up the breach, should our irritable friend, for whom, in spite of all, we both entertain such a high regard, fire upon me with his heavy ordnance.' When renewing his personal intercourse with Gauss at the Göttingen Jubilee in 1837, Humboldt remarked in his friend 'not merely the conspicuous grandeur of an intellect which could boldly grasp and master any subject brought within its reach, but also a striking gentleness, cordiality, and warmth of character.' These days constituted for Humboldt 'brilliant points in his career;' 'there is something grand,' he exclaims, 'in being brought into contact with the greatest man of the age.' Such was the relationship existing between these distinguished men, the sanguine temperament and versatile intellect of the one contrasting with the rigid earnestness and powerful genius of the other; and yet these strong differences formed the chain which bound them indissolubly together. A contrast of a similar if not of an identical character was to be noticed in the friendship between Humboldt and Bessel.

The personal interchange of thought with so many men of science, some of whom were in the full freshness of a youthful enthusiasm, afforded to Humboldt, by the meeting of the Association at Berlin in September 1828, gave him the oppor-

tunity of arranging for the recommencement of a series of observations, similar to those taken in 1800 and 1807, upon the hourly variation in the inclination of the needle and the periods of extraordinary disturbance in the earth's magnetism. He threw himself into the scheme with renewed vigour, and drew out a comprehensive plan which had for its object the employment of a larger number of observers and the use of superior instruments. For this purpose, Humboldt caused to be constructed during the autumn a magnetic hut, since become so noted; it was built entirely without iron, and was erected in the garden of his friend Mendelssohn-Bartholdy, father of the distinguished musician, at his house in Leipziger Strasse. He devoted himself with the most assiduous zeal to these fatiguing observations, which were carried on simultaneously with those of Reich, who conducted his investigations at Freiberg in a mine at a depth of 216 feet; subsequently similar observations were undertaken at Kasan, Nikolaiev and St. Petersburg. In writing to Schumacher on March 13, 1829, he states:—‘My hourly observations upon the declination of the needle have been carried on very regularly since the 1st of January. I have observed from hour to hour for whole nights together, and I am anxiously looking for some observations of the aurora borealis at Copenhagen. From the 24th to the 26th of March my hourly observations will be made simultaneously with those at Freiberg, where Gambey's instrument is placed in one of the mines.’ On March 19 he sent to Reich some observations he had made in conjunction with Paul Bartholdy, Humboldt conducting them through the night and his friend during the day. In a letter written on the 26th he says:—‘The day before yesterday I again observed the declination of the magnetic needle every hour, simultaneously with the Freiberg observations, for thirty-three hours in succession.’ Assistance in the work became at length absolutely necessary, as during seven periods of the year Humboldt arranged that observations should be made at least every hour for forty-four hours consecutively. He availed himself of the assistance of Dirichlet, Dove, Encke, Magnus, Poggendorff, and others, and committed to them the conduct of the observations during his absence in Siberia. Upon the sale of the property

in Leipziger Strasse, about the year 1835, the copper hut was taken down, and re-erected at the new observatory according to the plan suggested by Gauss in 1833. During the Asiatic expedition Humboldt supplemented his 'astronomical observations for the geographical determination of places with observations upon terrestrial magnetism.'¹ The suggestion made by Humboldt, upon his return to St. Petersburg, that a connected line of magnetic stations should be established throughout Russia, has been already alluded to in the narrative of the Asiatic expedition: his successful appeal to Great Britain for the extension of the line of observations, so as to encompass the globe, will be found recorded in the following chapter. To Humboldt is also due the institution in 1828 of thermometric observations in the mines of Prussia, with the object of ascertaining the mean temperature of the earth.

During the years from 1827 to 1830 Humboldt was as actively engaged as ever in various branches of science. He contributed papers upon meteorology, terrestrial magnetism, and volcanic agency, to Poggendorff's '*Annalen*,' and the '*Annales de Chimie et de Physique*;' for Crell's *Journal* he prepared a treatise upon the systems of numeration in use among various nations, and upon the value given by position to numerals in the Indian system—a subject to which he had given some attention while in Paris ten years previously, and in which, together with everything that was connected with the history of discovery, he maintained a lifelong interest. He sent to the '*Hertha*' many important communications on geographical subjects, which he was constantly receiving from all quarters. From this epoch, so productive of results in the annals of science, dates the formation of the Geographical Society of Berlin, which was organised on April 26, 1828, by Bæyer, Berghaus, Oetzel, Kløden, Zeune, and others, and held its first sitting under the presidency of Karl Ritter on June 7, in the same year.² Humboldt was never more than an honorary member of the society, and as such regularly attended the commemorative meetings held every four

¹ '*Kosmos*,' vol. iv. p. 69; a general outline of the history of the observations upon magnetism undertaken during the first half of this century is given in pp. 63–77.

² '*Karl Ritter, ein Lebensbild*,' by G. Kramer, vol. ii. pp. 30, 31.

years in honour of its organisation, but from his intimacy with Ritter, Dove, Ehrenberg, and other succeeding presidents, he was naturally induced to take a lively interest in the proceedings. While the last volume of the 'Relation historique' was in course of publication at Paris in 1826, Humboldt brought out a new edition of the 'Aspects of Nature,' into which he introduced the 'Genius of Rhodes,' while the various notes and illustrations were added in a new form.¹ Even during his summer visits to Teplitz, whither he annually accompanied the king in almost unbroken regularity between the years 1828 and 1839, and which, though enjoyed at first, were afterwards heavily complained of as the journeys to the 'eternal springs,' he availed himself of this period of recreation for carrying out magnetic observations, not only at Teplitz but at the great Milischauer and at Prague. He also made several geological excursions, and in returning to Berlin on one occasion paid a visit to Freiberg, to compare with Reich and Freiesleben the variation in the inclination of the needle as observed in the mine or above ground, though the injury to his arm prevented him making the descent of an upright shaft. It was a pleasure to greet once more the friend of his youth, to whom he sent on April 4, 1829, a bust that had been recently taken, with the affectionate message that he should carry with him as far as the shores of the Irtysh and the Kirghissian steppes of Ischim the thought of all for which he was indebted to Freiesleben.

The Asiatic expedition, during which Humboldt was absent from Berlin from April 12 to December 28, 1829, has already been described. It is scarcely necessary to remark that this important undertaking engaged the attention of his active mind for a considerable number of years, not merely in the preparation for its successful accomplishment, but in the arrangement and publication of the results obtained. In the autumn of 1827, while engaged in a correspondence with Count Cancrin, the benevolent minister of an enlightened despotism, and with Bolivar, the revolutionary hero of South America, in reference to the subject of platinum, 'the cherished visions' of Siberia and of Tobolsk, 'the dream of his early youth,' were ever

¹ 'Briefwechsel mit Varnhagen,' p. 2.

present to his imagination. The lectures upon physical geography, the arrangements for their publication, which however did not proceed very far, and the completion of the 'Relation historique,' delayed the accomplishment of his wishes for the space of eighteen months—a delay which secured him time for many preparatory studies on scientific subjects, and on the history of those countries through which he was to pass. In his attempts to learn the Russian language he was by no means successful, although he had been able to master without difficulty most of the modern languages of Europe. On his return to Berlin he proceeded without delay to work out the results of the expedition, which were not completed for several years; and the eagerness with which he entered upon this new occupation appears from a letter written by Zelter to Goethe on February 2, 1830: '—Alexander von Humboldt is again at Berlin, and receives only a limited number of his friends. He is full to overflowing, like a seething pot. Rumour has spread some wondrous tales, but I want to hear him for myself. How rarely are they understood who speak under the influence of inspiration!'

The historical questions aroused by his expedition to Asia appeared to Humboldt to possess an importance almost equal to the results he had obtained in physical science. 'It is the people,' he remarks in writing to Guizot, on February 25, 1830,¹ 'especially the great nomad population, which has excited my interest far more than the majestic rivers or the snow-capped peaks. The imagination is led back to those primeval days when whole nations were in perpetual migration. The history of the past finds a striking exemplification in the fact that in our own day one million three hundred thousand Kirghissians are still leading a wandering life, transporting themselves on their waggons. We have been certified of this by history, but I have a mania for seeing everything with these old eyes of mine.' Although Humboldt had promised Cancrin² not to publish anything concerning the political and social condition of the Russian Empire, occasional observations on the subject

¹ 'Briefwechsel zwischen Goethe und Zelter,' vol. v. p. 386.

² De la Roquette, &c. vol. ii. p. 84.

³ 'Im Ural und Altai,' p. 74.

could not fail to escape him, both in conversation and in the narratives of his expedition.

It is impossible to avoid a feeling of surprise at the intimate relationship maintained so long by Humboldt with the government and court of the Emperor Nicholas, whose despotic rule could have but ill accorded with the liberal sentiments of Humboldt, by whom the political 'ideas of 1789' were cherished to his latest breath. But from his position at the court of Berlin, such a relationship was almost inevitable; Frederick William III. viewed with unconcealed satisfaction Humboldt's connection with his Imperial son-in-law; he readily granted him leave of absence, for a period at first of seven months;¹ indeed, we shall scarcely be wrong in supposing the rank bestowed upon Humboldt before his departure for Asia to have been given in consideration of the honours and distinctions accorded him by Russia. To Cancrin, who from the first had always addressed him as 'Privy Counsellor,' and 'Your Excellency,' Humboldt wrote on April 6:—'The honours prematurely bestowed by your Excellency have brought me good fortune.'² On the same day he received the following gracious communication from the king:—

'As a public recognition of your valuable labours in the service of science, I have nominated you to the rank of Actual Privy Counsellor, with the title of "Your Excellency," and have signed the patent, which I enclose. You are about to undertake another extensive journey in the prosecution of science; success will doubtless reward your efforts, and the value of the scientific treasures you will gather will assuredly equal every expectation, if only your health and strength be preserved. My best wishes for the happy fulfilment of your expedition accompany you.

'FREDERICK WILLIAM.'

The journey of 1829 failed to render Humboldt a partisan of the Russian Government, and the tokens of favour accorded

¹ According to an order in council of February 26, 1829, in the possession of Herr G. Rose.

² 'Im Ural und Altai,' p. 64; see also p. 18. Many important details are to be found in some unpublished letters in the possession of Herr Rose.

him by the Court of St. Petersburg scarcely made more than a momentary impression, since he was in the habit of regarding the politeness of sovereigns merely as a gratifying custom. In the masterly address he delivered before the Academy of St. Petersburg on November 28, 1829, in which he urges the establishment of a line of stations for magnetic and meteorological observations across the territory of Russia—from its vast extent peculiarly advantageous for the purpose—and suggests the institution of a series of investigations upon the gradual depression of the Caspian Sea and the diminution in the mass of water—he concludes, after an allusion to the glorious war with Turkey, in these words:—‘But it is unbecoming amid the surroundings of this peaceful assembly, to celebrate the glory of a nation’s arms. The illustrious monarch by whom I have been summoned to this country, and who has deigned to smile upon my labours, stands imaged before me in the garb of the genius of peace. From the time of his accession to the throne he has not ceased to encourage by his example all that is true, grand, and noble, extending his protection to science, by which the reasoning faculties are fortified and strengthened, and to literature and the arts, through which are secured the charms and embellishments of life.’ There must have been some insincerity in these words, for it is obviously to this speech that he refers in writing to Varnhagen on April 26, 1830, as that ‘*cri de Pétersbourg*,’ ‘a farce enacted before the court, the result of two evenings’ hard work—an attempt to say that which ought to be said, and to flatter without humiliation.’¹

The cordial feelings entertained towards Humboldt by the Emperor Nicholas experienced a considerable check upon his acceptance of a political mission at the court of the new dynasty at Paris, though outwardly the friendly character of this relationship remained unbroken. As a mark of peculiar respect to the Czar, Humboldt was selected by Frederick William to accompany the crown prince in May 1830 on the occasion of his attending the Constitutional Diet at Warsaw, the last that was opened by the emperor in person. The unhappy position of the Poles, and the suppressed agitation of the people, which

¹ De la Roquette, vol. i. p. 308; ‘*Briefe an Varnhagen*,’ p. 7.

soon after led to many acts of violence, did not escape the penetrating glance of Humboldt, and he remarks in writing to Count Cancrin from Warsaw on June 2, 1830 :—‘ My visit here has filled my mind with many serious thoughts, over which I brood in silence, for they are of a nature which, for fear of being misunderstood, I can only communicate verbally.’¹ Cancrin, to whom, on account of his enlightened and unprejudiced tone of mind, Humboldt felt at liberty to write in these terms, replied somewhat drily on June 17 :²—‘ The Poles, as a nation, are possessed of excellent qualities, but there is something sadly wanting. It is remarkable that in olden times they were characterised by Bezmozgly as stupid and unintelligent.’

While in Russia, Humboldt had little ground for pride in the position occupied by his native country. Neither at the court nor among the crowd of officials at St. Petersburg did he meet with any spirit favourable to Prussia; by her vacillation and indecision she had entirely lost influence. Her refusal to unite with Russia in an offensive and defensive alliance had been very ill received, and scarcely any notice had been taken of her friendly demonstrations in other matters. Count Nesselrode jested over the policy pursued by Prussia; and Humboldt found himself powerless to further the commercial advantages of his country, since Cancrin, who on most other points commanded his esteem, showed a continual aversion to Prussia. Even the Emperor Nicholas declared ‘ that he knew Berlin too well to hold it in much respect.’³ It was of little avail that Prince Wittgenstein, the leader in Prussian politics, who was on a footing of intimacy with Humboldt, for once displayed a fit of liberality upon a question of ecclesiastical government. ‘ I cannot escape the conviction,’ he writes to Humboldt on April 7, 1830, ‘ that evangelical Jesuitism is of an aggressive character, and has acquired a position of influence both with the State and the Church. Who knows but that this is in reality the work of Rome?’ Humboldt, who had ever a horror of indiscretions, especially those of a literary character, has written on the margin :— I request that

¹ ‘ Im Ural und Altai,’ p. 42.

² Unpublished.

³ As related by Humboldt to Varnhagen, ‘ *Bätter*,’ vol. v. p. 284.

this letter, containing some important expressions in reference to the evangelical Jesuits in Prussia, be kept secret till after the death of the prince.' The 'important expressions' employed by Wittgenstein are the less calculated to create surprise, from the circumstance that the pietism which was beginning to assert itself in Halle, and endeavouring to undermine the influence of the school of Hegel at Berlin, was setting itself in opposition to the new hymn-book which, in the opinion of Humboldt, had been 'most judiciously compiled,'¹ and was, consequently, acting indirectly in opposition to the Government. In his 'promiscuous writings' Varnhagen has given a graphic description of the manner in which Humboldt was accustomed to satirise, in the brilliant assemblies that gathered round Rahel, the various forms of piety and hypocrisy that had 'come under his notice during his extensive experience.'² Who could have suspected that the new pietism just then rising into notice amid the opposition of the leading circles of the capital, was in the following reign to exert undisputed sway? Yet Humboldt was soon aware that this state of things, although 'it might be treated with ridicule, was becoming in real earnest a serious evil.' Though he did not live to witness the complete degradation to which the internal administration of Prussia was destined to sink during the middle of the present century, he could not fail even in those days to experience the grief, distress, and anxiety which the unworthy and illiberal policy of the Government was fitted to produce; and in these sentiments he met with most hearty sympathy from his brother William, with whom he enjoyed unity of thought on many similar topics.

We cannot close this chapter without referring to the beautiful affection that united the brothers in such close intimacy during this period of their lives, and which had constituted, as we have seen, the only real attraction offered to Alexander in his settlement at Berlin. 'I cannot tell you,' he writes to William from Moscow, on November 5, 1829, 'how rejoiced I am to hear that you lost your sciatica before going to Gastein,

¹ From a letter to Nagler of May 8, 1830, in W. F. A. Zimmermann's 'Humboldt buch,' vol. ii. p. 38.

² 'Der Salon der Frau von Varnhagen' (Berlin, March 1830).

and I trust that the sojourn there will have completely re-established your health. There is nothing just now that interests me so deeply, for I am most anxious to retain you at Berlin during the winter, since one of my strongest motives for leaving Paris was to enjoy your society. I am sadly afraid that you will work too hard in your solitude, but it is easy to resign one's self when affection prompts the sacrifice. I implore you to act according to your own wish. I shall never regret having come to Berlin. It will of course be a gratification to have you so near. I shall come and see you at Tegel even oftener than once a week. Nothing shall ever separate us again ; my highest happiness now consists in being near you.' He had, in fact, before undertaking his expedition to Russia, been in the habit, notwithstanding the numerous migrations of the court from Berlin to Charlottenburg, Pfaueninsel, Potsdam, and Paretz, of running over occasionally to the 'hospitable country seat,' where his brother, 'while enjoying the reminiscences of an eventful career, pursued his favourite studies amid the attractions of classic art surrounded by an affectionate family to whom he was ever most devotedly attached.'¹ Alexander regarded his brother's family as his own. In writing to *Freiesleben* on September 3, 1827, he remarks :—'I have just returned (ten o'clock P.M.) from visiting my family at Tegel, where I have found them all in excellent health after their visit to Gastein.' With his aversion to music, it will scarcely create surprise that he should on one occasion inveigh against an 'unlucky concert' by Paganini, to which he had to escort his nieces, as he should thus be deprived of an opportunity of meeting Dirichlet at the house of Crell. But it was not only in the participation of social enjoyments that he was called upon to sympathise with his brother's family ; late in the autumn of 1828 his sister-in-law, Caroline von Humboldt, was attacked with increasing violence by the complaint from which she had been a sufferer for many years—described by Alexander with sympathetic sorrow as 'the most hopeless and fearful disease

¹ See Alexander von Humboldt's Preface to his brother's 'Abhandlung über die Kawisprache,' p. xiii.

by which poor humanity can possibly be afflicted.' Nearly all the letters written by him during the winter of 1828-29 are tinged with the 'tone of sadness' inspired by the deep sympathy which bound him to his afflicted brother, and the grief he himself experienced at the loss of 'one of the most gifted and amiable of women.'¹ His only consolation was that the sufferer was 'mercifully granted a peaceful release, and passed away in a state of unconsciousness.' The death of his sister-in-law took place on March 18, 1829, and the distress and grief consequent upon this event rendered it a matter of great effort on the part of Alexander von Humboldt to carry out his expedition to Asia; the affectionate letters he wrote to his 'poor brother' during the journey show how eager he was to replace as far as lay in his power the love that he had been called to relinquish. In a letter from Iekaterinbourg, dated July 14, he expresses with deep feeling his thanks for four letters from William von Humboldt received almost simultaneously, during his sojourn there:—'I do not know how to thank you sufficiently, my dear brother, I can scarcely realise my happiness. . . . At no former period of my life have I ever been so capable of appreciating this kind of happiness. We have of late been drawn so closely together, and I have learned to appreciate so fully the sweetness and gentleness of your nature, that the pleasure of hearing from you in the midst of this moral desert is far greater than it is in my power to express.' A journey undertaken by his brother had aroused his fears, and he adds:—'Your existence has never before seemed to me so precious. Tell dear Caroline that I thought of her very often upon her birthday. The affection which comes from the depths of the heart is not to be lightly esteemed.' The remainder of the letter is doubly interesting from the striking proof it affords of the high esteem existing between the brothers, and of the appreciation each accorded to the penetration and intellectual power of the other. Before giving the passage it will be well to state some of the circumstances to which it alludes.

King Frederick William had in May, 1829, appointed

¹ In several letters to Schumacher, Reich, Cancrin, &c.

William von Humboldt—to the exclusion of Rumohr and other candidates—to be President of the Committee of Management of the Museum, consisting of Rauch, Schinkel, Waagen, and others. The post was accepted by William, ‘with the remarkable proviso,’ as Varnhagen relates,¹ ‘that he should only retain it till the return of his brother.’ In reference to this statement we extract the following lines from the letter above quoted from Iekaterinbourg:—‘I am astonished to find that you are being already deprived of the repose which you were so anxious to preserve after the irreparable loss you have sustained. It arises from the wish to arrange other people’s affairs, under pretext of doing them good. I believe that the step is to be attributed to our friends, among whom it was a current saying before my departure that, “we must not let him bury himself at Tegel.” . . . It is quite certain that the king, who is always so kind and considerate for us, would not have given his consent without the assurance that you would not dislike the appointment, and that it would be of service in distracting your thoughts from your grief.’ There could, indeed, be no doubt that Frederick William was actuated by motives of the most kind and considerate character, since he had already testified his sympathy with William von Humboldt by summoning to Berlin his son-in-law Colonel von Hedemann immediately upon the death of Frau von Humboldt.² On this subject Alexander thus continues:—‘You have made a noble sacrifice, for which I infinitely commend you. I fear I should not have been so complaisant, but the delicate conduct of the king, and the remembrance of his considerate thought of Hedemann at the time of your grief, might well justify this condescension.’ To Witzleben, also, who had exerted himself to obtain the appointment, Alexander could only attribute motives of ‘the purest attachment.’

With a keen perception of the advantages that would accrue to art from his brother’s appointment to the Presidency of the Fine Arts Committee, Humboldt refused to contemplate the possibility of displacing him on his return. ‘Your letters, my dear brother, especially the earlier ones, have seriously disturbed

¹ ‘Blatter,’ vol. v. p. 206.

² Varnhagen, ‘Blatter,’ p. 190.

my peace of mind. Is it possible that you can really think of me as a director? I am alarmed at your expression, "I fear you cannot escape." It has almost robbed me of sleep. I shall have relinquished my position in Paris, and returned to my country merely to become director of a picture gallery, to accept an appointment from Herr von Forbin, and to occupy myself with subjects diametrically opposed to everything for which I have acquired any reputation in the world. This would be too humiliating, and I should refuse point blank, even were I nominated without my consent. You have yourself too much regard for the European fame we both enjoy, in which neither of us can suffer without injury to the other, to censure me for this determination. I would sooner quit the country than be exposed to this danger. I intend not only to refuse the appointment of director, but all presidencies and other permanent offices in any commission whatever. My wish is to remain at the service of the king in every matter of a transitory nature—in such a position as you now are—and I shall be glad to assist you in duties that may seem too onerous; but a permanent post at the Museum he could not possibly accept, and this he had expressly declared before leaving Berlin. In his position as counsellor to the king he could accomplish much valuable service for the Institution. The energetic remonstrances that he made on this subject were not without result; Count Brühl, the manager of the Royal Theatre at Berlin, was appointed Director-General of the Museum. Humboldt again refers to this subject in a tone of some impatience in a letter to his brother from Moscow dated November 5:—"The statement I have already made, that certain persons were unwilling that you should remain immured at Tegel, means nothing more than that certain persons were anxious to gratify themselves and us at the same time. They wished to see the places filled by us in order that those they disliked should be kept out of them. Such is the world." By this he meant that it was only from hatred to Brühl that attention had been directed to him. "I rejoice at the nomination of Count Brühl; as for myself, I should have resisted to the uttermost any proposal to appoint me to a permanent office."

The post of Director-General of the Museum of Berlin was committed in 1840 to Von Hause, a member of the medical

profession, a distinguished philosopher and explorer of America ; and the beneficial influence his rule exerted upon the management of the various departments under his control tempts one almost to wish that Alexander von Humboldt, the refined and cultivated critic in art, who was ever eager on all subjects to secure the advice and direction of those fully competent to form a judgment, did not overcome his reluctance and consent to occupy the position of presiding over this great institution for the furtherance of fine arts, at the head of a committee composed of such men as Rauch, Schinkel, and Waagen. It is, however, impossible not to sympathise with his resolve to concentrate the powers of his universal genius upon subjects of greater moment, in which his heart was more deeply stirred.

After his return from Russia, Humboldt was not long permitted to enjoy personal intercourse with his brother. In May he was called upon to undertake a journey to Warsaw, after which he accompanied the Empress Charlotte and the Crown Prince Frederick William by way of Posen, to meet the king at Schloss Fischbach, whence he paid a visit to Ottmachau, a property of his brother's in Silesia. No sooner had he returned to Berlin than, in the beginning of July, he set out again with the king to Teplitz, while his brother sought the restorative influence of the waters of Gastein.¹ In the first few days of August, while at Pirna on his return from Teplitz, the news reached the king of the Paris Revolution of July—an epoch from which dates a new phase in the life of Humboldt, which will come before us in the next chapter. How little confidence he had himself felt in the apparent tranquillity in the political world may be gathered from the following passage in a letter he addressed to Bunsen from Teplitz:²—‘The dismemberment of the Ottoman Empire, which, like Poland, has sought protection from the conqueror, the unsuccessful attempt to

¹ Varnhagen, ‘Blätter,’ vol. v. p. 263.

² ‘Briefe von A. von Humboldt an Bunsen,’ p. 8. The date of this letter, July 1, as appears even from the postscript, is erroneous. On the 9th Humboldt was still at Berlin on the point of setting out for Teplitz (see ‘Briefe an Varnhagen,’ p. 8). As the letter to Bunsen was written two days before leaving Teplitz, the date of July 31 or August 1 must be substituted. Nothing was, however, then known of the events transpiring in Paris, as we learn from some marginal notes in Humboldt's handwriting.

present a barrier to the ceaseless surge of the waves agitating eastern politics by the establishment of a nominal kingdom of Greece, the Albanians, the union of the Armenian nation upon the land whence it originally sprung, the crafty delay of the Harpagon of Egypt whom death will overtake in his craftiness, the great events that are transpiring in the north-west of Africa, the political crisis threatening both France and England, where the old *régime* opposes all true progress, the removal of Bolivar from a stage where his presence weakened all faith in ancient institutions, since every eye was directed upon him in hopeful expectancy, the religious difficulties in Germany—all these are events which cannot fail to interest deeply a mind like yours. The evil of the present age, and the characteristic feature of our indolent weakness, is that, amid such grand elements for the renovation of the world, we can dream away both time and opportunity in slimy inactivity.' Even at the moment that these words were being penned there arose from this 'slime' the awful monster of Revolution.

CHAPTER II.

FROM THE REVOLUTION OF JULY TO THE DEATH OF FREDERICK WILLIAM III.

Humboldt's Diplomatic Missions to the new French Court—Mode of Life in Paris after 1830—Death of William von Humboldt and Publication of his Works—Introduction of a new Epoch in the Investigation of the Earth's Magnetism—Jubilee of the University of Göttingen and Expulsion of the Seven—Humboldt's Scientific Pursuits from 1830-40—Results of his Asiatic Expedition—'Examen critique'—Compilation of 'Cosmos'—Other Spheres of Labour till the Death of the King—Relationship with Frederick William III.

IN the long reactionary period between the years 1815 and 1848, the Revolution of July forms a marked epoch in the political history of most of the nations of Europe, and nowhere perhaps were its effects more evident than in Germany. In the younger generation it everywhere aroused an enthusiasm for liberty, and kindled even under the absolute monarchy of Prussia a desire to claim the rights of political freedom. Though Heine might express himself as so excited by the news from Paris that 'his soul was set on fire,' and 'was filled with joy and song, sword and flame,' Humboldt, who had watched the phases of the first French Revolution, held himself aloof from every kind of enthusiastic illusion. 'Believe me, my dear friend,' he remarked to Gans,¹ upon his return to Berlin, 'my wishes meet with yours, but my hopes are not so bright. For forty years I have watched the successive changes in the supreme power in Paris, and in every case the downfall was to be ascribed to inherent incapacity; in every case the bright promises that succeeded have been doomed to disappointment, and have only prepared the way for a fresh catastrophe. I

¹ 'Briefe an Varnhagen,' p. 9.

have been acquainted with most of the leading men, some of whom I have known intimately; but though many were excellent and well-meaning, they did not hold an even course, and soon after coming into power proved themselves no better than their predecessors, sometimes even exceeding them in knavery. No government, hitherto, has kept faith with the people, or subordinated its selfish interests to the welfare of the nation. So long as this is the case, there will be no stable government in France. The nation has always been deceived, and will be deceived again; but at length she will avenge herself, and for this she has no lack of power.'

A deep insight into the national character of the French is revealed in these prophetic words. Yet this gloomy view of the future of that country did not prevent Humboldt from frankly expressing his sympathy with the existing state of affairs, even when in the presence of those who differed with him in opinion; the Revolution appeared to him as a just retribution for the faults of the late government.¹ The tone of the reactionary party now succeeding to office vibrated between anxious forebodings and a reckless confidence, inciting them to dream of glorious wars, whereby to win fresh laurels for France. By considerate warnings, Humboldt sought to guide and check this clatter of arms; taking advantage of the knowledge he possessed of the policy of the cabinet of St. Petersburg, he endeavoured to set Count Bernstorff on his guard as to the deceitful machinations of Russia, who would have rejoiced if Prussia, in the fear of losing the Rhine, had undertaken single-handed a crusade against the Revolution in the interests of the Holy Alliance.² The king and his leading ministers wisely abstained from displaying any sympathy with the warlike temper of the new court, the ultras, or the army; they were fully aware that on them devolved the task of smoothing the way for the new *régime*; the 'quasi-legitimist' seemed henceforth to be a necessary link for enabling the subverted legitimists to enter into peaceful relationships with the new order of things. In this capacity Humboldt offered his services as the most suitable person to undertake the mission.

¹ Varnhagen, 'Blätter,' vol. v. p. 303.

² Ibid. vol. v. p. 306.

Thus was brought about a change deeply affecting his outward career, but of little influence upon his inner life.

General von Rochow writes from Potsdam on September 25, 1830, to Von Nagler, the postmaster-general: '—Humboldt goes, much to his own gratification, to Paris; behaves, however, as if he were sent thither, and maintains that he must await despatches from Count Bernstorff, while the minister gives out that he merely takes *this opportunity* of sending letters by him.' A mixture of truth and falsehood lies in these invidious expressions. There is not the shadow of a doubt that Humboldt went 'for his own gratification' to Paris. It was, as we have seen, one of the stipulations agreed upon on his return to Berlin that he should spend four months yearly in the French capital; but he had hitherto been prevented from availing himself of this permission, first by the lectures on physical geography, and afterwards by the preparations for the Asiatic expedition. A visit to Paris had, in fact, been definitely arranged for the autumn of 1830, as appears from his letter to Bunsen² from Teplitz before receiving the intelligence of the Revolution of July:—'We start the day after to-morrow for Berlin, whence we intend shortly to proceed to the Rhine, and in any case I shall go in September to spend some months in Paris.'

In a letter to Freiesleben, dated September 27, he states that his journey is fixed for the following evening, should the despatches arrive in time. His first sojourn in Paris lasted four months, but his return to Berlin in January 1831 seems only to have been for the purpose of obtaining fresh instructions, as, after a stay of eighteen days, he again set out for the French capital, where he remained for fifteen months, till April 1832. His next mission to Paris detained him from August till December in the year 1835, and the following visit, which comprised the period between August 20, 1838, and January 3, 1839, was the last he paid during the lifetime of Frederick William III. During the succeeding reign he was four times in Paris,

¹ E. Kelchner and K. Mendelssohn-Bartholdy, 'Preussen und Frankreich zur Zeit der Julirevolution,' p. 23.

² 'Briefe an Bunsen,' p. 9; see also the note at the close of the preceding chapter.

on various diplomatic missions; on the first occasion from May 30 till November 8, 1841, on the second from September 16, 1842, till February 19, 1843, again from December 1844 till the middle of May 1845, and lastly, for a period of five months, from the autumn of 1847 till January 1848. Humboldt, therefore, had ample opportunity for closely observing the course of French politics during the reign of Louis-Philippe, from its promising commencement to its inglorious termination; and, from his intimate acquaintance with persons and events, few men were so favourably situated for forming a correct and comprehensive judgment upon this important epoch in French history. The diplomatic despatches he penned on these occasions have not fallen under our notice, but Varnhagen, who had some knowledge of their contents, thus comments upon them on November 21, 1841: 'I have just been reading the despatches sent from Paris to the king by Alexander von Humboldt, during the year 1835. Not in the least like Alexander Humboldt! They might have been written by anyone else, and, what is worse, nobody else could have written them otherwise! This is the way with political matters; they degenerate into trifles which are of no real importance, but become so because everybody agrees so to consider them. Hence the constant dissimulation of forms, suppositions, and exaggerations, and the whole machinery for disguising truth.' The censure conveyed in these words is diverted from any special reference to Humboldt by the general terms in which it is couched; yet from the nature of the case it is not to be supposed that Humboldt's diplomatic writings should be at all remarkable. He conducted affairs of this nature with the same conscientious earnestness and punctilious accuracy by which all his undertakings were characterised; he was in the habit of reading the despatches aloud before sending them off, while his attendant, Seifert, walked to and fro before the door of his apartment to keep away listeners. The German wits in Paris were accustomed to draw a distinction between Baron von Werther, the Prussian ambassador (*Gesandte*), and Humboldt, whom they designated

¹ 'Briefe von A. von Humboldt an Varnhagen,' p. 90.

Geschichte. The conduct of State affairs lay really in the hands of the ambassador, in whose absence only Humboldt was called upon to act; to Humboldt was committed only the modest task of being an attentive chronicler of Parisian affairs, and of representing a personal relationship with the court, without the assumption of any official post. For this position he was peculiarly fitted, not only from his intimate acquaintance with Paris, and the reception accorded him in the most distinguished society of the capital, not only from the friendly footing he had ever maintained with the Orleans branch of the royal family of France, but pre-eminently from the ardent desire he was known to cherish for the continuance of a good understanding between France and Prussia; for, in common with the most enlightened of his contemporaries, he felt that through France alone could any liberal influence be exerted upon the restricted policy of his native land.

Humboldt's habitual practice of introducing, even into the scientific and literary circles of Paris, discussions on the political and social events of the day, is graphically described in a letter from Karl Ritter to his wife, on September 17, 1824, the day after the death of Louis XVIII.¹ In recounting a reception at Arago's, he says:—'Towards eleven o'clock Alexander von Humboldt arrived, and everyone listened eagerly to the news he brought, for no one is so well acquainted with what is going on; he saw everything, for he was out by eight o'clock, going his rounds; he was one of the first informed of the king's death, and had the particulars of the last moments from the physicians; he had communicated with several of the leading men, had witnessed the lying-in-state, was present at the excesses that took place in the palace, and assisted at the examination that ensued; he is acquainted with what passed at the council of ministers, and among the members of the royal family; he has to-day been to St. Germain and Passy, to pay his respects to the highest in the land, and returned full of news and interesting anecdotes, which he recounted to us with great wit and humour.' Nor did this remarkable energy diminish in later years. In order to

¹ Kramer, 'Karl Ritter,' vol. ii. p. 180.

furnish a correct reply to the inquiry addressed to him by Frederick William IV. as to the 'stability of the ministerial axis,' he attended Parliament daily to hear the debates. 'The ministry will keep in power,' he wrote to Encke on January 26, 1845, 'but through their own misconduct their position has been sadly weakened, and they have proved themselves quite unequal to face the new elections to the Chamber; in fact, along with every other branch of the present government, the administration is exceedingly unpopular. . . . I add these few lines on the 27th, on my return from a stormy sitting of the Chambers. Guizot's cabinet had to-day a majority of eight only on the question of Pritchard's amendment, and this would be reduced to three if the votes of the five ministers were deducted.'

It will readily be conceived that Humboldt continued to maintain a footing of intimate friendship with the two distinguished statesmen, Guizot and Thiers; even after the *coup d'état*, he interchanged in his correspondence with Guizot many sad thoughts on the state of political affairs. He was a favourite guest at the court of Louis-Philippe—on one occasion we find him passing a whole day with the king, from early morning till midnight¹—and he threw himself with characteristic sympathy into the interests of the House of Orleans. A touching proof of this is afforded by the letter he addressed to Frau von Wolzogen, furnishing her with valuable suggestions for the guidance of the Princess Helena of Mecklenburg, upon coming to Paris as the bride of the Duke of Orleans. The letter is given almost entire; for notwithstanding the affectionate tone in which it is penned—so free from the formalities of diplomacy—it gives a just picture of the talent displayed by Humboldt in the discharge of his official duties in Paris:²—

'Potsdam: May 6, 1837.

'Although I have but once enjoyed the pleasure of conversing with the Princess Helena, the impression I then received was of a character so deep and lasting that I have ever since

¹ De la Roquette, vol. ii. p. 92.

² 'Im neuen Reich' (1871, vol. i. p. 357); contributed by J. Löwenberg.

taken the deepest interest in her welfare. This union of an amiable and highly gifted princess with a noble and distinguished prince has been the innocent cause of arousing deeply-rooted prejudices and long-forgotten enmities which have found expression in a passionate remonstrance from the courts of northern Europe. The arrangements are at length completed; both the princess and her mother have displayed great force of character and moral excellence, and, once established in her new home, the bride will soon be led to forget the tumult due mainly to envy and stupidity. For the real happiness of the princess, who stands before my mind as one of the most charming visions I ever beheld, I feel there is no cause for anxiety. She is entering a family circle where she will be welcomed with true affection. She is already assured of her reception and of the impression she is certain to produce. As to physical danger, such a thing is out of the question—especially for the wife of the Duke of Orleans.

‘This alarm is got up merely to conceal other causes of discontent. The bride comes to France at a time when the ministry just come into power, though wanting in character, possesses at least the advantage of being free from that system of intimidation which, however justly administered, is from its dogmatism and absolutism violently opposed to the national character of the French. It is possible to be supported for many years by a majority in the Chambers without having the sympathy of the country, because from the restricted number of voters (even as compared with England before the passing of the Reform Bill) the Chambers represent but a small section of the people, and that of the higher classes. The constant endeavour to increase the machinery of government by laws of a restrictive and punitive character has spread among the lower classes the notion that the ministers will if necessary make use of force. This impression has been fostered by the impetuous conduct of Casimir Perrier, who is far too highly estimated, and who very imprudently attempted upon one occasion to employ intimidation. The practices of a military despotism tend daily to increase this imprudence; and the importance attached by a feeling of national honour to the possession of Algiers—a wretched colony, yielding only corn and

oil—exerts a baneful influence on the military. You will no doubt have read, my dear friend, the last monstrous proclamation of General Bugeaud. Algiers tends to infuse a spirit of ferocity into the army, and demoralises the nation by the way in which the governors have been allowed to deceive and oppress the people.

‘As there is reason to fear artifice in her new relatives, the young princess will doubtless abstain from giving expression to any sentiments of a purely political nature; but I am convinced that in heart she will soon become more liberal than most of those by whom she is surrounded. It would not be wise either to lead or anticipate her sentiments. I have been assured by Bresson that she is well acquainted with the scene on which she is about to enter, and that she follows intelligently the course of events. Her tact never fails her, and were she previously informed of the weaknesses of certain personages she could hardly avoid a certain constraint of manner, whereby she would lose one of her greatest charms. Of the queen, who is the personification of goodness, it is needless to say anything. Her only daughter, who is gifted with considerable talent for sculpture, possesses the charm of social vivacity. The manners of the family are however very quiet, almost bordering on formality, not from constraint but from a love of moderation in both word and gesture. This accounts for their mode of spending the evenings, when they all sit round a table while a succession of visitors come and go. The Princess Helena cannot fail to be surprised at first by this remarkable passivity. I hope she does not believe any of the stories that are current in Germany and among the lower classes in France against Madame Adelaide, as to the severity of her character, love of power, and the unscrupulous use of her influence. Madame Adelaide is one of the most cultivated women of her rank, distinguished for elegance of mind and great intelligence, and possessing a refined taste in literature and the arts. Force of character does not always imply severity. The king is devoted to her, and there is no one so completely in his confidence.

‘I am glad to find that Frau von Lobau (née Aremberg) is to be the first lady in waiting. She is very amiable and gentle,

and knows the court well, and has a happy facility in describing character. The Duchesse de Broglie, from a feeling of religious fanaticism, has unfortunately withdrawn from general society; she is one of the noblest women of whom Paris can boast. The Marquise de Dolormien and her sister the Comtesse de Montjoye, who are in attendance upon the queen and Madame Adelaide, are women of considerable culture; they were educated at Brunswick, and their lively and agreeable conversation is tinged with a tone of thought essentially German. The two political intrigantes, Princess Lieven and Comtesse Flahaut (formerly Miss Keith), will no doubt spread their nets. With much cunning and knowledge of the world, they are wholly devoid of sensibility. Of quite another order is the Duchesse de Dixo, who will, I hope, be much in the society of the princess. In her a deep interest in politics, in which no personal considerations are allowed to mingle, has in no way impaired the tenderness of womanly feeling. She is in every way most estimable. The wife of Gabriel Delessert, the present prefect of police, is the daughter of the Comtesse de Laborde, once renowned for her beauty; and her father, Comte Alexandre de Laborde, is well known by his travels in Spain and Asia Minor. The brother of Gabriel Delessert resides at Cassel, and is the author of the "*Voyage pittoresque à Petra*." They are a very remarkable and accomplished family, and are distinguished by their love of art. With many of the family you are doubtless already acquainted. Baron Benjamin Delessert, the head of the house, and his sister Madame Gautier, for whom Rousseau wrote his "*Lettres sur la Botanique*," invariably take the lead in every benevolent undertaking. Though Protestants, they exercise a widespread influence in Paris from their wealth and noble patriotism. The fascinating Madame Delessert, whose sisters are also remarkable for their beauty, is a frequent guest at the Tuileries.

'I trust that in some of these benevolent schemes the Princess Helena will have the opportunity of meeting with Madame Gautier. Unfortunately, Madame de Saint-Aulaire and her intelligent daughter, who is well versed in German literature, are now at Vienna, as also the charming Countess Apponi, a great musical genius and a brilliant diplomatist.'

In the concluding paragraph, which has already been quoted,¹ Humboldt solicits that his protégé, Steuben the artist, should be favourably introduced to the notice of the princess. The letter is a masterpiece of candour and tact—qualities which are indeed traceable in all Humboldt's writings. An accurate knowledge of human nature is everywhere revealed; that which it would be unbecoming to mention openly is delicately but unmistakably indicated; with consummate tact he points out 'the weaknesses of certain personages'—manifestly alluding to Louis-Philippe—and thus gives warning while apparently declining so to do. In all that he openly states it would be difficult to point out an error. He was completely justified in the conviction that 'the *wife* of the Duke of Orleans' would be exempt from the personal danger to which, eleven years later, his *widow* was exposed. In his comments upon political affairs, while acknowledging the calm then prevalent, he is filled with anxious thoughts for the future. The few remarks he makes upon Algiers suffice to show that, with a deep interest in the intellectual and social glory of France, he was yet far from countenancing the passion of the nation for military glory. From Humboldt's keen-sighted comments upon the ladies of the court, it is evident that though a bachelor he had become an adept in the study of female character. Consistently with his well-known benevolence, he could not but avail himself as a patron of art, we might almost say the fostering guardian of all talent, of such an opportunity of rendering a fresh act of kindness to a deserving protégé.

The Orleans marriage was welcomed by Humboldt as an event tending towards the union of Prussian and German interests with those of France, and the encouragement of liberal principles as opposed to the oppressive policy of Russia. From the first, he had earnestly endeavoured to infuse a feeling of reconciliation into the court of Berlin. As early as May 1832, upon Humboldt's return from his first mission, General von Rochow ascribed to the lively narratives 'Herr von Humboldt gave of his visits to the studios of Paris' the change in the threatening aspect of the times and the relapse to 'indolence, in-

¹ Vol. ii. p. 60.

action, and irresolution,' as this discontented legitimist was pleased to designate the sympathy evinced by Prussia in the events of 1830.¹ Humboldt himself was in favour of a peaceful settlement of the question of the day, because he saw that 'the financial position of Prussia suffered severely from the attitude of suspense and warlike preparation enforced by a policy of mutual intimidation (*de peur mutuelle qu'on donne et qu'on reçoit*).'² In this sense he agreed even with Cancrin in withholding sympathy from many of the disturbances that had arisen in the west of Europe, as for instance in the contentions over Antwerp; only that he attributed the blame in that case more to the unstatesmanlike conduct and temper of Lord Palmerston than to the 'gentle dogmatism of the thoroughly unpractical *doctrinaire*.' He received with dignified politeness the peevish complaints of the Russian minister over the degeneracy of the times, and the fresh assumptions of 'the patched piece of wretchedness called man;' the subject of Poland was mutually avoided in their correspondence. In proportion as Humboldt became more intimately connected with France, an increasing estrangement crept into his relationships with Russia and the Czar, though a form of politeness was preserved, for in matters of courtesy Humboldt never failed; he had already declined, in 1831, a pressing invitation from the Emperor to undertake a second expedition. Towards Count Cancrin he ever cherished feelings of respect and friendship, much as he regretted the bad effects 'of the prohibitory system so rigorously carried out by this intelligent statesman.'

To return to Humboldt's relationships with France. Upon the occasion of the memorable visit of the Duke of Orleans, in May 1836, to Berlin—whither he came in company with his brother, the Duke of Nemours, as a preparatory step to a matrimonial alliance with the House of Mecklenburg—Humboldt naturally occupied a position of importance, in interposing between the gracious urbanity of the royal visitors and the haughty reserve and cool demeanour of the court.

¹ 'Preussen und Frankreich zur Zeit der Julirevolution,' p. 80.

² 'Im Ural und Altai,' p. 132; also from three unpublished letters from Cancrin to Humboldt, 1831-5.

The unpleasant duties attendant on his office as chamberlain on this occasion were fulfilled with his wonted good-humour. In writing to Encke on May 14, 1836, he says:—‘For the last three days I have been doing all I can to divert the attention of the crown prince and the French princes from the solar eclipse and the Observatory; I have tried to sacrifice myself for you in every possible way. The crown prince gives a dinner to the king and his royal visitors at two; it will be over at half-past four, and I have offered to set up at the palace my telescope by Cauchoix, and several small sextant telescopes provided with dark glasses; I have got Petitpierre to put together a number of coloured glasses, so as to make the sun look *white*! None of these unworthy tricks have, however, availed to save you, not even the circumstance that your great refractor is just now dismounted, and that visitors will interrupt your observations; princes are unreasonable in a princely degree. The crown prince is immovable, and persists in his intention of taking the royal guests to the Observatory to-morrow afternoon—I suppose about half-past four. I have just returned from a ball at Charlottenburg, and he begged me to acquaint you with this determination. He has promised to leave before the termination of the eclipse. Pray do not throw the blame on *me*. I would advise you to set up as many small telescopes as you can, and make a general exhibition by showing how the dome moves. It is to be hoped it will be cloudy. There is not much chance either of the dinner being prolonged, as the king is to rise from table punctually at four o’clock.’ In view of the cold reception likely to be accorded by the court of Berlin, Humboldt had at first given his advice against the proposed visit of the princes.¹ He was therefore all the more gratified at the tolerable success of so hazardous an experiment, and greatly delighted a year after by the victory won by the Princess Helena over the disaffected Russian party in Berlin.²

Upon the arrival of the princess at Paris, the court and the domestic circle of the Orleans family acquired a double charm

¹ ‘Briefe an Varnhagen,’ p. 31.

² Ibid. Nos. 27 and 28.

for Humboldt, the more so as she manifested a full appreciation of his intellectual superiority. She perused his works, with which he had presented her, with interest, and requested 'the pleasure of his instructive society' when she or her German guests paid a visit to Versailles. The conversations she had enjoyed with him at St. Cloud, and in the red drawing-room at the Tuileries, were retained by her in grateful remembrance till the latest days of her exile, and doubly precious to her in that sad time was the thought that he looked back with pleasure on the days that were past. The new edition of the 'Aspects of Nature,' brought out in 1849, was greeted by her with deep interest 'as a quickening fountain for those who had experienced the sorrows of life, and suffered from the turmoils of the world.' She never failed to convey to the royal exiles in England news of his health, and implored her children to bear him in remembrance. Her views on the wild course of events then agitating France coincided with those of Humboldt. His calm assurances that mankind was striving after a *fable convenue*—a chimera, scarcely perhaps believed in—at once secured her sympathies, for, fully as Humboldt agreed with Arago in his 'radical' and anti-ministerial views, and clearly as he saw through the folly of Louis-Philippe and his ministry, it must not be supposed that he viewed the Revolution of 1848 with any brighter hopes than that of 1830. Neither could he place any greater confidence in the republic of which Arago was a leader, although in common with the Duchess of Orleans he was united with him in a sympathetic bond of hatred against the usurper, who, by a *coup d'état*, had in a moment destroyed the hopes both of the republicans and royalists. For many years Humboldt watched keenly for the signs of a change in the affairs of France, of which he was kept informed by the princess and the Duchess von Sagan, as he could view with calmer feelings than those experienced by the princess the probability of a new dethronement; these secret communications, together with information of a similar nature derived from Arago, he faithfully forwarded to the Princess of Prussia, who was equally interested with himself in the Duchess of Orleans, and ever expressed warm admiration for her and the Orleans family. Against Louis Napoleon, of whom he spoke

with increasing detestation, he foresaw a Nemesis would arise; though in what form he could not say. He never ceased to hate and despise him; in self-imposed banishment he kept aloof from his beloved Paris, where the Parisians were prepared to give him a royal reception, and although he may possibly have derived a secret satisfaction from the supercilious politeness of the emperor, he ever treated his advances with cold disdain. As far as he was concerned, he, who was the intimate companion of Arago and the fatherly friend of the Duchess of Orleans, would never acknowledge the dynasty of Napoleon III.; it was therefore an insult to his memory that after his death the manuscript of 'Cosmos' that had been used by the printer was presented to Imperial France by the officious hand of his assistant.¹

The sudden death of the Duke of Orleans was mourned by Humboldt as a world-wide calamity. In a letter dated July 26, 1842, he writes:—'I do not allude to the terrible misfortune of the 13th of July. You are aware that I have been devoted to this excellent young prince from his childhood. You know the relationship in which I stand to the Princess Helena. It is a calamity affecting the whole of Europe, for it will involve a reconstruction of the regency, and I fear that any arrangement now made will not be permanent, on account of the popular elements which cannot fail to be introduced; the government is already almost a republic in disguise. I cannot describe to you the affliction that this event has spread throughout Germany.'²

Intimately connected as Humboldt was with the Orleans court, and much as he was interested in maintaining a good understanding between France and Prussia, he yet knew how to assert the dignity and rightful position of his country. A convincing proof of this is afforded by his conduct

¹ The friendship maintained by the Duchess of Orleans for Humboldt is clearly evinced in the 'Briefe an Varnhagen,' Nos. 117-119, 138-140, as well as in various unpublished letters of Humboldt's to the Princesses of Prussia—the present Empress of Germany. Also in some manuscript letters of the Duchess von Sagan to Humboldt, and in H.W. Dove's 'Gedächtnissrede,' p. 9.

² De la Roquette, vol. ii. 'Avertissement des nouveaux éditeurs,' p. vi.

during the complications arising between France and the rest of Europe, in consequence of the treaty of the four powers of July 15, 1840. Even in the spring of 1839 the position of France had appeared to him to be very critical; it was impossible for anyone to estimate the slope of this declivity;¹ the premonitory symptoms might at any moment develop themselves in a crisis, and he viewed it as of the greatest importance that Germany should seek a secure position, and avoid such mistakes as those at Cologne and Hanover. He urged these sentiments strongly upon Metternich.² Afterwards, in the autumn of 1840, when the horizon grew dark with the threatened conflict, he was decisive in his refusal to go to Paris, from the conviction that it would be undignified either for the king or himself, were Prussia to exhibit any weakness by a want of independence.³ Again, in the spring of 1841, he wrote to inquire of Arago whether he would be willing to receive him at Paris, seeing that he and his friend had been pressed into opposite camps by the events of the previous year and the French cry for the Rhine frontier.⁴ He never relinquished the hope of peace being preserved. In writing to Guizot on November 12, 1840, congratulating him upon his return to office, he says:⁵—‘Your first duty to the nation is undoubtedly to arrange for suitable means of defence, but on our side we have never for an instant entertained any hostile intentions. The views of our new sovereign are quite as pacific as those of the late monarch, with whom I was for so long a time on a footing of intimacy. A king, inspired with a love of art and a keen appreciation of intellectual enjoyments, can find no motive for disturbing the foundations of national prosperity. The more our sovereign seeks to identify himself with the interests of Germany, the more does he pledge himself to promote the preservation of peace throughout the world. The German confederation has no other aim than the defence of

¹ De la Roquette, vol. i. p. 382.

² ‘Briefe an Varnhagen,’ No. 54.

³ Ibid. No. 48; also an unprinted letter to Frau von Wolzogen of January 9, 1841.

⁴ ‘Briefe an Varnhagen,’ No. 50.

⁵ De la Roquette, vol. ii. p. 202.

its legitimate territory, and is certainly a stranger to all ideas of aggression. Difference of opinion may exist upon certain points of general politics, but you at least have discovered no desire to interrupt the union of the great powers which has hitherto helped to preserve in Europe the balance of power.' Three months later, on February 11, 1841,¹ he commends in a similar strain the exertions Guizot had made for the maintenance of peace, and a prudential line of conduct on the part of Louis-Philippe. The plan for fortifying Paris did not meet with his approval, as he feared the erection of forts would inevitably arouse feelings of irritation in the populace which it were unwise to excite. 'The fortifications of the capital,' he adds, 'are a political necessity, one of those necessities which are created both by nations and individuals, when they demand too imperatively that which they need.'

Humboldt's sincere love of peace did not prevent his being a strong advocate for the maintenance of a state of national defence, especially in the case of his own country. The same spirit which induced him to urge upon Metternich the assumption of a stronger position for Germany, led him also to make use of even the most slender opportunities for increasing the prestige of Prussia amid the scientific circles of Paris. To these sentiments he gave expression in replying on December 23, 1831, to Encke, who had earnestly implored him not to expose himself to the censure of the Prussian press by communicating to the Institute the scientific achievements of Germans:—'In times of political agitation it is almost a duty to show where intellectual life abounds in fullest energy. The scientific standing universally accorded to Prussia by foreign states tends to increase the prestige of her power, and atones for much for which she might otherwise be reproached.' By these motives Humboldt was actuated in the spring of 1832, when endeavouring to secure the election of Cousin as a foreign associate of the Berlin Academy, urging his claims on the ground of his love of peace, his wide-spread influence and sympathy with Prussia, which he had recently evinced by subjecting

¹ De la Roquette, vol. ii. p. 186; the year is erroneously given, which happens very frequently in this collection.

himself to the derision of the populace through his outspoken admiration for German institutions.¹ If Humboldt's position at Paris during his previous residence there might be regarded as that of a social ambassador or consul for the Germans resorting to the French capital, he became doubly so when these duties were undertaken officially after the Revolution of July; of this we have proof in the large sum he raised among his fellow-countrymen in Paris during the winter of 1831, in aid of the orphans made by the ravages of the cholera in Germany. It is due probably to his official position in Paris that a deeper feeling of nationality is to be remarked in him after 1830. However cosmopolitan he may have been in the eighteenth century, he had long ceased to be cosmopolitan in the sense of viewing patriotism as any detraction from the purest feelings of humanity; it henceforth began to appear to him as one of the noblest of human instincts. His ideal was now formed not so much upon cosmopolitan principles as upon the union of nations without destruction to their national peculiarities. This tone of thought, and the genuine appreciation evinced for the noble qualities of the French nation, frequently designated by him as '*une nation spirituelle et généreuse*,' although at times apparently devoid of any '*raison publique*,' peculiarly fitted him to act the part of a friendly mediator between two powers, which, during a period of universal peace, seemed unwilling to arouse the question of might which awaited settlement at some future day.

There is no doubt that Humboldt took pleasure in his diplomatic missions, and rejoiced in their successful issue. At the close of the year 1842, when, as the bearer of an autograph letter from the king to Louis-Philippe, a step was conferred upon him in the order of the Legion of Honour, he was gratified to observe that this distinction was viewed by the public as a reward for his diplomatic services:—'I venture to express a wish,' he wrote to Guizot,² 'I might almost say a request, that the distinguished honour conferred upon me should not be made public until immediately before my departure, as it

¹ Letter to Encke, dated Paris, March 30, 1832.

² De la Roquette, vol. ii. p. 247.

would then be received as a proof that my sojourn here has given satisfaction—an acknowledgment which might yield me some advantage.’ The prominent position he now occupied at Paris received additional value in his eyes from the increased influence it gave him with members of the French Government, when furthering the interests of men of science. The recommendations he presented to Louis-Philippe or his minister for the distribution of decorations or other marks of honour were not confined to his fellow-countrymen, but were often made in support of the claims of Frenchmen.

It must not, however, be imagined that, like many other distinguished men, Humboldt followed with any peculiar pleasure this *dilettante* employment, for as such he always regarded everything connected with politics; on the contrary, during his visits to Paris between the years 1830 and 1848, he loved to consider himself purely as a man of science. His two important works upon Asia, as well as the ‘*Examen critique*,’ were brought out during these visits, the latter in several editions. He also succeeded in acquiring many new facts for the third volume of ‘*Cosmos*.’ It will readily be conceived that the translation of the introduction to the first volume, which he himself executed ‘with extreme care and labour’ during the winter of 1844–5, is the only portion of the work that attains the full force and power of expression of the original. He confesses to have been driven ‘in desperation to the vain resolve’ of undertaking the translation by the fear of appearing ridiculous in the eyes of the French. His strong desire ever to receive as much intellectual wealth as he expended led him to attend the lectures on historical philology delivered during the year 1831 by Hase, Champollion, and Letronne; and subsequently those by Böckh on kindred subjects at Berlin. He was also present at a course of lectures upon the history of science by Cuvier, whose passionate attack upon Goethe’s theory of the unity of structure in vertebrate animals he did not scruple to controvert during the lectures in whispered comments to his neighbours.¹ Even in 1845 he

¹ L. Agassiz, ‘Address delivered on the Centennial Anniversary of the Birth of Alexander von Humboldt’ (Boston, 1869), p. 43.

attended a fresh course of lectures on astronomy by Arago. On the other hand, he gratified his Parisian friends by reading out to them selected portions of the 'Examen critique' in the drawing-rooms of Chateaubriand and Madame Récamier.¹

Although many of these facts have been already mentioned in the description of Humboldt's mode of life at Paris,² it has seemed necessary to revert to them briefly here, lest by viewing him too exclusively in the light of a diplomatist, his scientific activity might be overlooked. Even during this period he continued to employ the artifice of having two residences, one for official visitors, and another for the reception of his scientific friends. His letters to Germany are full of satisfaction at the peaceful asylum granted him by Arago in the *entresol* of the Institute, and of commendations scarcely less enthusiastic on the habit of dining late, which enabled him to pursue his scientific labours uninterruptedly as long as daylight lasted, and permitted him to enjoy till a late hour the complete relaxation afforded by the pleasures of social intercourse. We may further remind the reader that in this year occurred that fierce contention among the members of the Institute on the nomination of a new foreign associate, in which, as we learn from the graphic description given by Karl Vogt, Humboldt exerted himself for his candidate with all the passionate zeal of the leader of a faction, and relied as much upon the weapons of a cautious diplomacy as upon the weight of his personal influence. In the midst of the intrigues by which in his position he could not fail to be surrounded, he preserved unimpaired the remarkable *naïveté* of his benevolent and affectionate disposition, an interesting proof of which has been preserved to us by Agassiz, who, coming to Paris shortly after the Revolution of July, had there the privilege of making Humboldt's acquaintance.

Agassiz received permission from his patron to visit him at his laboratory in the Rue de la Harpe; there he was encouraged not merely to relate the details of his scientific labours, but to consult him upon the difficulties which he—a young doctor of medicine—encountered in struggling not only

¹ 'Briefe an Varnhagen,' p. 57.

² Vol. ii. pp. 48-71.

for a scientific position but for the means of existence. Humboldt condescended to visit his young friend, at the small apartment occupied by him in the Hôtel du Jardin des Plantes. The first visit and its attendant circumstances are so characteristic of Humboldt, that we propose to give the narration in Agassiz's own words :¹—"After a cordial greeting, he walked straight to what was then my library—a small book-shelf containing a few classics, the meanest editions, bought for a trifle along the quays, some works on philosophy and history, chemistry and physics, his own "Aspects of Nature," Aristotle's "Zoology," Linnaeus's "Systema Naturæ" in several editions, Cuvier's "Règne animal," and quite a number of manuscript quartos, copies which, with the assistance of my brother, I had made of works I was too poor to buy, though they cost but a few francs a volume. Most conspicuous of all were twelve volumes of the new German cyclopædia, presented to me by the publisher. I shall never forget, after his look of mingled interest and surprise at my little collection, his half-sarcastic question as he pounced upon the great encyclopædia,—“Was machen Sie denn mit dieser Eselsbrücke?” “What are you doing with this *ass's bridge*?” the somewhat contemptuous name given in Germany to similar compilations. “I have not had time,” I said, “to study the original sources of learning, and I need a prompt and easy answer to a thousand questions I have as yet no other means of solving.” It was no doubt apparent to him that I was not over familiar with the good things of this world, for I shortly afterward received an invitation to meet him at six o'clock in the Galerie vitrée of the Palais Royal, whence he led me into one of those restaurants, the tempting windows of which I had occasionally passed by. When we were seated, he half laughingly, half inquiringly, asked me whether I would order the dinner. I declined the invitation, saying that we should fare better if he would take the trouble. And for three hours, which passed like a dream, I had him all to myself. How he examined me, and how much I learned in that short time! How to work, what to do, and what to avoid; how to live; how to distribute my time; what methods of study to

¹ Agassiz, 'Address,' &c. p. 45, &c.

nurture; these were the things of which he talked to me on that delightful evening. . . . It was not enough for him to cheer and stimulate the student; he cared also to give a rare indulgence to a young man who could allow himself few luxuries.'

If after this short sketch of Humboldt's life in Paris subsequent to 1830 any higher testimony were needed as to the general character of his sojourn there, we are able to adduce an authority no less weighty than Bessel, who wrote to Humboldt on January 24, 1838:—'I can scarcely understand how your Excellency has been able to arrange your occupations in Paris in the manner described in your letter—such ceaseless activity, such a perpetual succession of interests the most varied!—I see the possibility of it all, and am amazed by it, but I cannot make myself comprehend it, because to me it is quite impossible to follow more than *one* line of thought in the week.' That which proved a life-giving element to the versatile mind of the one, appeared to the energetic concentrativeness of the other as an antagonistic element: Bessel, however, knew as well as Gauss how to appreciate excellences foreign to his own character.

It cannot be any matter of surprise that upon each return from Paris, Humboldt should experience 'a sense of ennui and depression,' and that Berlin should appear to him 'an intellectual desert, an insignificant city devoid of literary culture, and infested by the gossip characteristic of a small place,' where for months together the minds of men, vacated by all noble thoughts, feed upon the self-created caricature of an exhausted imagination,¹ or that he should have felt it a most oppressive burden to attend 'the children's breakfast at court, with which the duties of the day began,' and to follow 'the still more objectionable practice of dining at two o'clock, whereby the work of the day was cruelly interrupted.'² It must, however, in justice be remarked that these complaints were uttered only after an event which in itself turned his home into an

¹ Varnhagen, 'Tagebücher,' vol. i. pp. 41, 155. 'Briefe an Varnhagen,' pp. 35, 42.

² De la Roquette, vol. ii. p. 131.

intellectual desert ; we allude to the irreparable loss he experienced in the death of his brother.

During the few years that William von Humboldt survived his wife, he lingered in a solitude that was only cheered by the labour to which, from early association, he mechanically clung. His position was thus touchingly described by Alexander :— ‘ Wholly given up to grief, he seeks in the depth of his misery the only consolation that can render life supportable, while he occupies himself with intellectual pursuits as with the drudgery of a task.’¹ At the request of Gustav Schlesier, the compiler of the biography of William von Humboldt, Alexander subsequently furnished an account from the notes in his journal of the melancholy illness of his brother, which first assumed an alarming character on March 27, 1835, and terminated fatally on April 8.² From this record we need only extract the portions having reference to Alexander. He was throughout lovingly occupied with the invalid, anxious to catch the last utterances of his noble mind, and eager to soothe the excitement of his delirium ; during the first stages of his illness he read to him such portions of Schiller’s poems as gave expression to the spirit’s longing for emancipation from the bonds of material existence. In the early part of April he forwarded to Gide, his publisher in Paris, some proof-sheets which had waited many days for correction, with the following lines :— ‘ I have been unable to send my letter before, as I have been distracted by the agonising thought of my brother’s approaching end. For three days he has been at the point of death. I pass my days at his house. How many tears I have shed ! He is just now slightly better, but I dare not indulge hope. I need your kind sympathy, although I have so far exerted myself as to correct the proofs.’³ At six o’clock on the morning of Sunday, April 5, he penned to Varnhagen that remarkable letter, which upon its publication some years ago immediately acquired a world-wide notoriety :— ‘ To you, my dear Varnhagen, who shrink not from grief, since you view it as the expression

¹ De la Roquette, vol. ii. p. 105.

² Best given in W. F. A. Zimmermann’s ‘ Humboldt buch,’ vol. iii. p. 19, &c.

³ De la Roquette, vol. ii. ‘ Avertissement des nouv. éditeurs,’ p. v.

of the truest depth of feeling, I must in this time of sorrow address a few loving words from the brothers who hold you in such affection. His release has not yet been granted. I left him last night at eleven o'clock, and I am returning to him immediately. He had not quite so distressing a day yesterday. He was much disposed to doze, and had some amount of rest, less disturbed than before; in his waking moments his words were full of love and consolation to those around him, showing that he fully apprehended his condition, and that the clearness of his intellect remained unimpaired. His voice was very weak, rough (hoarse), and high-pitched, like that of a child, and leeches were again applied to the throat. He retained complete consciousness. "Think of me often," he said the day before yesterday, "but always with cheerfulness. I have been very happy, and even to-day has been a glorious day with me, for there is nothing more beautiful than love. I shall soon be with *the Mother*, and enter upon a higher order of being." I am quite bereft of hope. I did not think that my old eyes could have shed so many tears. This has lasted eight days.¹ At length, on April 8, at six o'clock in the evening, William von Humboldt, to use the words of his brother, 'gently breathed out his great soul, just as the last rays of the setting sun faded from his apartment.'² On April 10, Alexander wrote to Gide the laconic lines:—'Pity me; I am the unhappiest of men. I have witnessed a death scene which has lasted ten days. My brother died the day before yesterday, at six o'clock.'³ In a letter to Letronne of the 18th he remarks:—'I have lost half of myself, and it is only when immersed in the study of physics, and surrounded by the recollections of antiquity, whence my poor brother drew his happiest and most beautiful inspirations, that I can hope to recover the calm I am yet far from possessing.'

His affection for his brother was one of the most beautiful traits in the character of Alexander von Humboldt, and from its unselfish nature, may well lead one to overlook his minor defects of sarcasm, vanity, and a love of admiration. It is,

¹ 'Briefe an Varnhagen,' No. 18.

² Zimmermann's 'Humboldt buch,' vol. iii. p. 22.

³ De la Roquette, vol. ii. 'Avertissement des nouv. éditeurs,' p. v.

however, true—and an impartial biographer must not hesitate to admit the fact—that a purely fraternal affection, quite apart from any intellectual sympathy, was never experienced by Alexander von Humboldt. The tender affection to a mother or a wife, by which such love is usually awakened and fostered, were ties denied to him, and that more through circumstances than by any fault of his own. The shadow that rested upon the days of his childhood has already been hinted at; in the thousands of letters written in after life, in which he ‘loved through the veil of life’s eventful history to contemplate the past,’ the early home of his childhood is scarcely ever alluded to, and never with any expression of pleasure. The question of marriage was one he had never seriously entertained; when interrogated upon the subject, he was accustomed to reply that science had been his only love. If in advanced life he was often prodigal, as will be shown hereafter, of expressions of goodwill towards men inferior to himself and unable intellectually to yield him aught in return, this must be ascribed more to a feeling of gratitude than to the unrestrained dictates of the heart. But let us not be misunderstood: he was capable in the highest degree of disinterested self-sacrifice, his whole being was entirely consecrated to feelings of this nature, but they were displayed in that comprehensive affection which to the ordinary observer appears at one time superhuman, at another unnatural, and which only prizes the individual so far as it may influence the universal. In these characteristics we are almost reminded of that sublime example of Love, who, while leaving his mother and his brethren standing without, stretched forth his hands to his disciples, and recognised in them, because they were doing the will of his Father who is in heaven, his mother and his brethren.¹ Ehrenberg, in a generous defence of Humboldt from the reproach ‘of an extreme though noble egotism,’ calls attention to ‘the tender and almost enthusiastic friendship he entertained throughout life’ for Freiesleben;² yet Humboldt was never even able to separate the affectionate feelings he entertained for Freiesleben

¹ Matthew xii. 47–50.

² Ehrenberg, ‘Gedächtnissrede auf A. von Humboldt’ (Berlin, 1870), p. 35, &c.

from the gratitude he felt towards him for his influence in the direction and development of his mental powers. He alludes to the formation of this friendship as one of the most important events of his life. 'You belong,' he writes, 'with Willdenow, Gay-Lussac, and Arago, to the few men who have left a permanent impress upon my mode of thought, and influenced my method of viewing nature.' Although he immediately adds 'to the few (according to my experience) who unite a loveable disposition with scientific attainments,' and although he never forgot, in admiring the talent of his friend, to set a high value upon the nobility of his character and the charm of his manners, it cannot be denied that the irresistible attraction by which he was drawn to intellectual enjoyments and the pursuit of science formed also the bond by which his heart was united in friendship; it was the operation of the same law that attracted his thoughts to the remotest regions of the universe, and guided his affections in the choice of sympathetic friends. His almost prodigal use of the terms 'friend' and 'dear friend' arose not so much from the habit of indulging in an exaggerated warmth of expression, as from the unconscious attraction he felt towards all whom he knew to be engaged with himself in the ennobling task of seeking the intellectual elevation of the human race. To him the history of the world was no other than the history of the human mind: in sympathy with the deepest thinkers of antiquity, knowledge was to him the highest good, and in harmony with the greatest philosophers of modern times, with whose teachings he had been imbued from his earliest youth, morality was the natural outgrowth of intelligence. Since his affections could only fully be called out by those who could sympathise in his pursuits, who were either his instructors or his pupils in the school of knowledge, it was a fortunate circumstance for him that his brother was in every way qualified to be his intellectual companion.

The friendship between the brothers was in fact limited by their intellectual greatness. Led by the diversity of their natural gifts into opposite paths in the pursuit of knowledge, and alike engrossed with the desire to work out their own peculiar line of thought, they were neither of them conscious of the separating tendency of their emulation, but strove to-

gether for the united possession of a double crown. Hence it followed that the nearer they approached the attainment of their object the more closely were they brought together by the converging tendency of their paths. For while William by means of philosophy was elevating the study of comparative philology into the dignity of a true science, Alexander, who had always viewed nature with peculiar interest as seen reflected upon the human mind, was at the same time deeply engaged in studying the history of discovery, by which he had been led into valuable original research; so that it might be said that the study of the physical sciences and of mental philosophy, usually separated so widely, were practically brought into close association by the two brothers. These points of mutual sympathy were naturally most prominently brought out in personal intercourse and in intellectual conversation—an art in which they almost equally excelled, though in very different ways. William's genius was undoubtedly the most productive, while that of Alexander, was the most receptive; the former was characterised by depth and power, the latter by comprehensiveness and acuteness. It is scarcely possible to bring Alexander into comparison with his brother in regard to the importance and originality of his achievements, since he cannot be said to have equalled him in the depth of his philosophy; in other words, in mathematics, which are the philosophy of science, he failed to take the high rank attained by William von Humboldt in speculative philosophy. Whatever might be the relationship they held, each towards the sphere of investigation occupied by the other, it is evident that Alexander, from his greater receptive powers, was the least likely to confine himself to his own pursuits, especially as they were of a character less restricted than those of his brother. While William could only give expression to the scientific views of Alexander in the garb of philosophic poetry, as in the magnificent though somewhat ponderous verses he addressed to him in 1808, Alexander throughout his voluminous works delighted to bring forward the views of William wherever the subject touched upon art, antiquity, mythology, or philosophy; occasionally, and that in passages of the greatest moment—as, for instance, in the brilliant conclusion of the first volume of

'Cosmos'—he modestly retires, in order that upon a subject upon which his elder brother was an authority, his voice alone should be heard.

Veneration for the genius of William von Humboldt, to the superiority of which he was keenly alive, and gratitude for the pure and keen incitement that his society ever afforded him, was nurtured in the soul of Alexander till it became a boundless devotion, justly meriting the tender name of brotherly affection. Even in the days of their boyhood, no ill-feeling ever arose between them, much as the lively banter of the younger was occasionally distasteful to the graver disposition of the elder. In riper years they were united in the closest harmony in everything relating to public life by the consciousness of a mutual endeavour after intellectual and political freedom. At the close of the preceding chapter, we noticed the affectionate tone pervading the letters written by Alexander to William from Russia and Siberia; we have now witnessed the anguish of feeling he experienced at the bed-side of his dying brother, as poured forth in the few lines he penned from the sick chamber. Without seeking further evidence of this nature—for in his extensive correspondence the same feelings are often repeatedly expressed in words nearly identical—we would direct our attention to the practical proof he gave of his devotion to his brother, now redoubled in intensity, in the collection and publication of his writings and the assiduous endeavours to place him before the world in the same position he held in his own esteem.

To the surviving brother the notices upon William von Humboldt that appeared in the daily press seemed very insufficient. While thanking Varnhagen for his *éloge* in the '*Staatszeitung*,' he adds:—'A newspaper is scarcely the place in which to honour men of distinction; what with the claims of the family, the censorship of the press, and an icy public, it is a problem not to be solved even by *your* genius.'¹ He was particularly annoyed by an article in the '*Morgenblatt*,' in which, among other blunders and misstatements, there was dragged forward in an idle spirit of gossip the notorious and

¹ '*Briefe an Varnhagen*,' No. 19.

unfortunate speech of William von Humboldt in regard to the three things which passed his comprehension; namely, orthodox piety, romantic love, and music.¹ We should not have alluded to the subject had it not been asserted by an authority otherwise trustworthy that Alexander had confessed to similar heresy.²

These hasty words remind one of the expression imputed to the Emperor Frederick II., 'de tribus impostoribus;' they are to be regarded as a bold paradox uttered in a moment of irritation—either of the brothers might have made use of such an expression when annoyed by the wearisome musical entertainments which they could not always escape—a paradox which, from its startling nature, was repeated from mouth to mouth, separated from its connection, and so far rendered untrue. In reply to the article in question, Alexander distinctly denied having ever heard his brother make use of any such expression; he might with equal reason have formally pleaded guilty himself to an organisation similarly defective. In any case, the expression, taken seriously and in the strictest sense of the words, is more fully applicable to himself than to his brother, who, as we may gather from his letters, was not in his youth wholly a stranger to romantic affection. In Alexander, however, we notice that the bent of his inclination was always subordinate to his intellectual powers, so that if the vague expression 'romantic love' be taken to mean the subjugation of the mind to a passionate attachment, such was never experienced by Alexander von Humboldt. That both the brothers were devoid of any taste for music, we learn from Zelter's statement. With regard to the meaning of the expression 'orthodox piety,' it is necessary to draw a distinction between submission to any particular dogmatic system of religion, and a general religious sentiment resulting from a feeling of dependence upon a higher power, who claims our adoration, and

¹ 'Briefe an Varnhagen,' No. 21. In this letter reference is really made only to two things; but traditionally the famous saying is still retained as a triplet. See also Holtei's 'Vierzig Jahre,' vol. iv. p. 33, and 'Die Eselsfresser,' by the same author, vol. ii. p. 197.

² Holtei, see above. During the lifetime of Alexander the author only hinted at some such expression made use of by him in Paris in 1825; the passage that appeared in the 'Eselsfresser' in 1861 furnishes some explanation.

by whom, though surrounded by mystery, the universe is governed. To orthodox piety, both William and Alexander von Humboldt, in common with most of our classic poets and thoughtful philosophers, were entire strangers; the fact of being brought up in the atmosphere of the new enlightenment precluded any such influence.¹ To the other kind of religious sentiment they were neither of them strangers, although the man of science evinced a more speculative turn of mind than the philosophic historian. When Alexander was searching on behalf of the editor of his brother's works for the academic treatise 'On the Province of the Historian,' for the concluding passages of which he had a genuine admiration, he could not withhold from Varnhagen the confession, that 'he had discussed, if he might not say quarrelled' with his brother over the fundamental thought of the essay, which he considered to be an acknowledgment and exposition of a belief in 'the divine government of the world.' The acceptance of these 'eternal and mysterious decrees' then appeared to him as complete a delusion as the physiological hypothesis of the principle of life, for the truth of which he had once so warmly contended in the 'Genius of Rhodes.'² It is possible that William, in the course of *tête-à-tête* conversations with his brother, may have expressed his opinions with greater precision; the views brought forward in the treatise—in which the course of history is represented as the endeavour to embody an idea in action—suggest nothing more than that to men of thought a final cause is as inevitably to be deduced from the events of history as from the phenomena of nature, a necessity proved by Kant, and on this question Alexander von Humboldt from his own point of view must have been in agreement with his brother. His views on the philosophy of nature will be discussed hereafter.

The loving care testified by Alexander for the reputation of his brother is nowhere more beautifully manifested than in his critique of the admirable essays dedicated in 1837, by Varnhagen, to the memory of his deceased friend.³ While rejoicing in 'the

¹ The whole subject is admirably treated in Varnhagen's 'Wilhelm von Humboldt, Vermischte Schriften' (2nd Edition), vol. ii. p. 118, &c.

² 'Briefe an Varnhagen,' p. 40.

³ Ibid. No. 33.

honour done to his brother, to whom he was so tenderly attached, by so great and eloquent' a delineation of his character, he showed himself at the same time most desirous to obliterate every unfavourable line from the picture. He touches as follows upon the main difficulty in all historical and biographical representation, arising, especially in the latter case, from the necessary restriction of detail, and increasing in the proportion in which the facts are compressed :—'The more your description calls forth my admiration, the more regret I feel that it should be so limited in extent, as I could have wished the softening touches had been spread over the entire range of a life not unimportant either in politics or literature.' But he adds, with a critique upon his own criticism :—' "There is nothing so hopeless," as Gérard the great painter used to say, "as consulting the survivors about the likeness of a departed relative. Their exactions are most irritating. If only their relative had been alive, anything would have been good enough." ' In the year 1846, he published in the '*Allgemeine Zeitung*' a defence of his brother's translation of the '*Agamemnon*' of Æschylus in reply to a severe critique, and did so 'the more willingly as during half a century he had never taken any notice of the animadversions to which his own views and writings had been subjected, not only in his native country, but in foreign lands.'

Humboldt declined the proposal made to him to deliver the memorial address in honour of his brother at the Academy on the Leibnitz celebration day, in the year 1835, and suggested that his place should be occupied by Böckh, who was well fitted for the task, both from his official position and extensive scientific attainments. In an unpublished letter to Lichtenstein of June 7, 1835, he thus refers to the subject :—'I now come, my dear friend, to the public tribute to my brother at the Academy celebration. Such an act of respect to his memory is all the more deserved from the sincere interest which, as you are aware, from long experience, he ever manifested in the welfare of our Academy, and the zeal with which he fulfilled to the last his duties of an academician. It would be impossible for me either to speak or write on such an occasion of a brother to

¹ Zimmermann, '*Humboldt buch*,' vol. ii. p. 43.

whom I have been so fondly attached. I should feel myself so constrained by the moderation imposed in my position as a relative, that, with the best intentions and the most overpowering sense of the importance of the subject, I could not hope to succeed. Constraint annihilates freedom, without which it is impossible to produce anything satisfactory. It is unnecessary, therefore, for me to seek an excuse in the fact that, should the day be fixed for the 3rd of July, I shall have already left Berlin; the king's departure is arranged for July 1, and mine (should I not have previously sailed from Hamburg) is fixed for the last day of the present month. My brother was always a warm advocate for the observance of academic rules: it would therefore be in accordance with his wish that the memorial address should be delivered by the secretary of the section of the Academy to which he belonged. You are aware how greatly my brother was interested in the election of our friend Privy-Counsellor Böckh, and how highly he estimated the philosophy of his views upon ancient history. The subject could not be in better hands, for I believe that the characteristic pre-eminently distinguishing my brother was sympathy with the ancients, with which his whole being was penetrated—a sympathy which marked him equally as a statesman, a man of letters, a friend or a relative, and left its impress in the grace of his manners, the cheerfulness of his disposition, the strength and worth of his character, the freedom of his thought, and his lofty superiority to the restricting influences of the present age. He always appeared to me as the reflection of man in the highest stage of development as revealed to us in the history of past centuries. Were I to enumerate his achievements, I should mention, first of all, the foundation of the Berlin University and the institutions in connection therewith, the establishment of the Observatory at Königsberg, since risen to a position of great importance, and the formation of the Museum with which he was entrusted by the king. Of his literary works, I should signalise among his poetical productions the "Agamemnon," the "Odes of Pindar," the Choruses and the poem "Roma;" and among his prose writings, his essay on "Hermann und Dorothea," which is more properly a disquisition on the art of epic poetry, and his investigations upon the Iberian races,

showing that the Basques have peopled a large portion of the shores of the Mediterranean ; numerous essays on art and æsthetics in the "Horen," several papers on the philosophy of grammar in the Memoirs of the Academy of Sciences, and in conclusion the remarkable "Lettre à M. Abel Rémusat," upon the construction of the Chinese language. These works, closely allied in subject, all bear this marked characteristic, that they lead from principles grounded on individual facts to higher views embracing a comprehensive philosophy. My brother was peculiarly distinguished by this capability of mastering a mass of material already collected and arranged, of bringing out a unity in facts, between which there was no apparent connection, and of establishing their harmony with the requirements of the highest philosophy ; this was accomplished by aid of a style of writing which, while remarkable for clearness, was enlivened by the charms of imagination, and impressed by a tone of thought acquired by years of study, in which metaphysics formed the favourite subject. He had watched the growth, and powerfully assisted in the development of a new universal science of language, in which varieties of structure are traced back to types founded upon the intellectual constitution of man. Embracing within his comprehensive grasp all languages, and examining the structure of each language as if it alone were the subject of investigation, devoting to every detail an attention formerly bestowed only on the idioms, and illustrating the whole by means of his extensive knowledge of literature, my departed brother was distinguished among his contemporaries not only as having studied grammatically most of the existing languages, but as having traced the connection between all forms of speech, and pointed out their influence upon the intellectual development of mankind. The work that is now in course of publication will show posterity how after a long life devoted exclusively to intellectual effort, a powerful mind can concentrate the scattered rays of knowledge, grasp a great diversity of facts, and reduce under the eternal laws to which mind is subject the organic structure of language. I sympathise with you, my dear friend, in your desire that at the next meeting of the Academy a portion of the Introduction should be read. It would, I am sure, be productive of a powerful

effect, were the selection made of a lively character and embracing subjects of general interest, such as had reference to social habits and civilisation. If only we could find anyone who has the power to make himself heard, of whom we have but few in our Academy.'

The voice of posterity has found no reason to abstract aught from the high estimate here expressed of the significance of William von Humboldt nor has it added thereto anything of importance. The letter was evidently intended to serve as a guide to Bückh, who fulfilled the task entrusted to him with his wonted ability. It was on this occasion that in following out the line of thought suggested by Alexander as to the classic nature of his brother's mind, he signalised him as being distinguished as a statesman by the elevation of mind of a Pericles. The work alluded to as being in the press was that on the Kawi language: Alexander himself selected for reading before a séance of the Academy suitable passages from this world-famous introduction—the greatest masterpiece of his brother's writings. An undertaking of greater importance was the superintendence of the publication of this work in the 'Annals' of the Academy. This was left practically in the hands of Eduard Buschmann, of whom, on account of his connection with the Humboldts, it will not be inappropriate to insert a brief notice. In recommending him to Lichtenstein, as qualified to undertake the supervision of the printing, Alexander describes him as 'accurate, intelligent, and keenly interested in my brother's reputation.' On the completion of the work on the Kawi language, Buschmann remained in Alexander's service and rendered him valuable assistance in correcting the press for 'Cosmos.' The elegance as well as accuracy always aimed at by Alexander in the printing of his works was only attainable through the indefatigable exertions of Buschmann, whose character for unimpeachable accuracy is well attested by his index to 'Cosmos.' Those who are familiar with Humboldt's handwriting in his latter years, and are aware of the confusion reigning among his papers and the peculiar arrangement of his manuscripts, will not fail to have a vivid idea of the magnitude of the labour imposed upon his indefatigable secretary in the publication of this work. Alexander testified his gratitude for so many years of

faithful service by procuring the election of Buschmann into the Berlin Academy, in which he succeeded only after years of persevering effort against the violent opposition of Bopp. He was mainly induced to take this step as 'an act of devotion to the memory of his brother,' although he did not conceal from himself that the election of an 'academician should not be an affair of sentiment.'¹

The deep interest felt by Alexander in this great posthumous work of his brother's is evinced in the beautiful preface, dated March, 1836, prefixed to the first volume. According to the custom he had adopted since his residence at Berlin, he first submitted it, as he did everything he wrote in German, to the critical inspection of Varnhagen, 'the only one,' as he remarks with exaggerated politeness, 'in this city and intellectual desert where everything is so commonplace who shows any appreciation for just proportion in composition, tenderness of expression, and harmony in style.'² 'The distribution of appropriate commendation to forty people,' who had in some way or other assisted in the compilation of the work, proved even to Humboldt, who was so well versed in the language of flattery, 'a burdensome duty.' But this he accomplished, as he thought, 'with tolerable success, by distinguishing a few with especial notification and mentioning the rest in terms of graduated praise.' This acknowledgment of literary obligations resembled in fact a sample-list of such commendatory adjectives as largely abounded in his style, constituting one of its most striking peculiarities: but little value can be set on this gratitude, coined from the ductile metal of language, when the man who issues it facetiously remarks in confidence upon the worthlessness of such currency. An anecdote repeated on good authority shows still more evidently how fully Humboldt was conscious of this weakness. A young physicist, who had been summoned to Berlin on the recommendation of Leopold von Buch, failed to realise the expectations that had been formed concerning him. Humboldt in the presence of others ventured to remonstrate with his friend, whose blunt frankness is well known, upon the

¹ From Humboldt's letters to Böckh.

² 'Briefe an Varnhagen,' No. 22.

exaggerated recommendation he had given to his protégé, upon which Buch angrily retorted: 'Well, if *you* begin to censure praise, we shall all be silenced.' 'That is quite another matter,' replied Humboldt; '*I praise everybody.*'

However it may be with the commendation of the forty philologists, or with the panegyric of Varnhagen penned at the same time, whether Humboldt was in this case most sincere when in joke or in earnest—for his ironical temperament always rendered such a question doubtful—it would be most erroneous to cast the slightest doubt upon the sincerity of the encomium which he lavished upon his brother in the preface. We quote the noble words of the concluding paragraph:—'If all my hopes do not deceive me, the present work, by opening up a vast range of new thought and proving that from the organic structure of a language the intellectual powers of a people may be deduced, will impress the reader with an ennobling belief in the elevation of mankind. It will create the conviction that the grand treatment of a subject depends not so much upon intellectual endowments as upon nobility of character, upon a mind imbued with an inexhaustible depth of feeling and wholly free from the restrictive influences of the present.' Those who sympathise with this noble expression of opinion—and who is there who will refuse to do so?—must acknowledge from internal evidence that it is the genuine feeling of the writer. Alexander von Humboldt was wonderfully gifted with the power of raising himself out of the ordinary atmosphere of his innate vanity and irony to a 'grand treatment of a subject,' not only in matters relating to science, but on every other subject when once he had become alive to its importance: to become truly great, his character needed only to resume its natural elevation from the condescension with which he adapted himself to the trivial events of daily life.

He raised to his brother a memorial of still higher value by undertaking the editorship of his 'Collected Works,' in which he secured the assistance of Karl Brandes, although he himself conducted their elaborate preparation and general supervision. He attempted in vain to negotiate for their publication with Cotta, who received the proposal 'with some coolness,' and he finally made arrangements with Reimer. The

selections he introduced from the unpublished sonnets formed a valuable addition to the work, and were described by Humboldt in the short preface, dated May 15, 1841, 'as a diary in which the phases of a noble mind are reflected.'

Upon his brother's death Humboldt was drawn all the more closely to his bereaved family; Berlin became increasingly distasteful, and 'appeared to him, with its carnival-loving court, like a dance of death.' New sorrows awaited him. In January 1837, he bemoans to Böckh:—'To-morrow we are to commit to the tomb the mortal remains of my brother's eldest daughter, Caroline, who of all his children most resembled him.' And fifteen months later, in a letter to Carus, he remarks:—'My domestic circle is sadly broken up. The only daughter of my brother resident here has left to join her husband, General Hedemann, at Posen, where he has received an appointment; so beautiful Tegel is left with its new-made graves in solitude. My last family tie is severed.' Henceforth even his visits to Paris seemed 'but an ephemeral refreshment, as the return to home-life was only the more painful.' Although 'his family,' as he loved to call his nieces and their children, were scattered 'like leaves from a tree,' his affectionate heart ever followed them with the keenest interest. His letters of this period to Frau von Wolzogen are filled with minute descriptions of their characters, and details of their domestic history, to which we can only casually allude. His state of mind may be gathered from the reflections with which he interlined a letter from Bonpland from San Borja, dated July 14, 1836, but which he did not receive till the spring of 1837. These remarks—introduced between brackets—are evidence of the melancholy which then oppressed him, relieved only by the satisfaction he derived from his useful and active life. He had communicated to his friend the death of his brother, in a letter written on his sixty-seventh birthday, September 14, 1835; Bonpland replied immediately on the receipt of the sad intelligence, and endeavoured in his own artless way to give him consolation:—'How greatly have I been grieved by your letter, dear Humboldt! Let me mourn with you and your illustrious family the loss of the elder of the Humboldts. . . . I was not before aware of the precise date of your birthday ["September 14, 1769; I am ante-

diluvian!"]; now that I know it, I shall find a fresh occasion for specially calling you to remembrance. This year I shall certainly celebrate the day . . . sixty-six years are nothing, dear Humboldt ["they are a good deal when one is unhappy!"], Dr. Francia is now in his eighty-fifth year ["to what an age these tyrants live!"], he is very active and vigorous, and rides on horseback nearly every day. I was born, as you know, on August 23, 1773. Before I was attacked by the two severe illnesses, from which I am now convalescent, I used to ride full gallop a distance of twelve or fifteen, and sometimes even thirty leagues a day; when my health is re-established, I must limit myself to eight or ten leagues a day. As long as one is happy, one is always young. Anxiety and grief age us, undermine our health, and at length kill us. I always imagine you are very happy; I am sure you ought to be, surrounded as you are by earthly splendour ["!"], and covered with renown ["!"], which is daily on the increase. You ought to live a century, and then you will enter upon a second life which will be eternal ["a grand prospect that, forsooth!"].'

At the time that the amiable hermit of San Borja was giving expression to his philosophic sentiments in these lines from the borders of the Pampas, Humboldt was further adding to his renown while employing it in the furtherance of an important branch of science. It was in April, 1836, that he addressed his celebrated letter to the Duke of Sussex,¹ through whom he endeavoured to interest the Royal Society in the establishment of a series of magnetic stations, a subject he had formerly brought before the consideration of the Academy of St. Petersburg; but in this application to a great maritime power, his scheme embraced a wider range than he had contemplated when appealing to a merely continental power; at the same time he took occasion to point out the perfection to which the method of observation had been brought by Gauss. We need scarcely discuss the scientific value of this scheme of Humboldt's: the labours of Sabine and the results of the Antarctic expedition of Sir James Ross suffice to indicate the

¹ The letter to H.R.H. the Duke of Sussex is to be found among other places in *De la Roquette*, vol. i. p. 338, &c.; for an account of the whole matter see '*Kosmos*,' vol. i. pp. 438-9; vol. iv. p. 71, &c.

important epoch it marked in our knowledge of terrestrial magnetism.

In the accomplishment of this plan, which, so far as we know, originated entirely with Humboldt, he had two difficulties to contend with—the one arising from his relationships with England, and the other out of the position in which he stood to Gauss. It might, indeed, be said that he was in no way an enthusiastic admirer of the British nation. He had too long been accustomed to the charm of the unrestrained and intellectual society of Paris, not to view with the eye of a satirist the stiff, formal conventionalities of English society. ‘This England is a detestable country,’ he wrote to a friend at Berlin after a visit across the Channel; ‘at nine o’clock you must wear your necktie in *this* style, at ten o’clock in *that*, and at eleven o’clock in another fashion.’ One is irresistibly reminded of the French caricature of ‘Monsieur l’Anglais,’ who invariably enacts the same heavy part. The egotistical character of English politics was equally repellant to the German idealism of Humboldt; who does not remember his sarcasms upon the ‘land of the leopard’ with its ‘mercantile avarice,’ and punctilious church-going, in the sincerity of which he was perhaps as little inclined to believe as Lord Byron himself? To these difficulties were added some of a purely scientific character. Everyone is aware of the high regard in which Humboldt was held by the most distinguished men of science in England, by whom, indeed, his name was scarcely less honoured than by the savants of France and Germany, in support of which may be adduced the letters of Sir John Herschel; while Humboldt, on the other hand, was not less fully imbued with a just admiration for the character as well as the labours of such men as Faraday, Herschel, Sabine, Darwin, &c. Notwithstanding, he was impressed with the conviction that he should never succeed in enlisting the sympathy of the British public. To the English, in their intense love of the practical, by which they are led to seek points of reality even in the ideal, the advance made by science in her most direct and appreciable form was ever more attractive than the less obvious, though not less genuine, progress made through the introduction of newer and grander views of nature. Among a people

distinguished for originality, by whom the ideal is never cultivated merely for its own sake, and with whom the term philosophy is thoughtlessly applied to the first steps of inductive scientific inquiry, the extension of knowledge by means of experiment is more prized than the reduction of facts into an organised plan, and the discoverer is regarded with more veneration than the propounder of a system. Hence arises the remarkable phenomenon that when men of science in England attempt the 'generalisation of ideas,' to use Humboldt's favourite expression, as for instance Buckle, or Darwin in his last grand theory, they meet with far greater sympathy on the Continent, and especially in Germany, than they do in their own country. On this account the achievements of Humboldt, from the universality of his range of thought, failed to meet with the same appreciation in England as was there accorded to the more concentrated labours of other investigators occupied on particular branches of science. A proof of this is afforded by the history of the award to Humboldt of the Copley medal, a mark of distinction designed especially to those labourers in the field of science who have succeeded in visibly extending our range of knowledge by the acquisition of new facts. It happened that a discussion took place at a council meeting of the Royal Society as to the propriety of awarding the medal to a German, by whose valuable researches an important branch of physical science had been extended far beyond the foundations laid by Humboldt; in the course of the discussion the question arose as to whether Humboldt had ever been a recipient of the medal, and to the astonishment of the meeting the query was answered in the negative. It was therefore thought desirable that the medal should be awarded to him, and the claims of the young physicist postponed till the ensuing year. It must be freely admitted, to the honour of the English savants, that they were ever ready to accord him the consideration that was his due, since in their estimation he was unquestionably the distinguished leader of European science. Nor had he cause to reproach himself with neglect towards them. Nevertheless, it is certain that he could never divest himself in English society of an instinctive feeling of separation, just as amid the scientific circles of Paris

he enjoyed the sense of keen sympathy. There was yet another circumstance to be considered. We have already remarked of Humboldt that though, as a man of science, he could not be considered cosmopolitan, he was at all events international in feeling. With the French, who always eagerly welcome a fellow-labourer, this formed no barrier to his being at once received as one of themselves; but in the English he encountered a nation reserved in itself, and exclusive with regard to the rest of the world, accustomed to admire, even in foreigners, the principle of nationality more than international sympathy. An interesting evidence of this feeling is to be found in a letter from Sir John Herschel, in which he comments to Humboldt upon his adoption of the French language in corresponding with him. The passage occurs in a letter dated June 10, 1844, in reply to some apologies from Humboldt for the illegibility of his handwriting:—‘Whatever apologies you may see fit to make for the writing, I will only remark, that there is sure to be a sense worth *digging* for in every line that drops from your pen, though it were buried deep as the most recondite hieroglyphic. There is only one thing I cannot so easily reconcile myself to in its perusal—that you should write in French in place of your own noble German, which you admit to be *more* your own than the other. You do me only justice in believing me partial to the German language. English is the language of busy practical men, dense, powerful, and monosyllabic—German of deep thinkers and massive intellects, binding the Protean forms of thought in the many-linked chain of expression—French of vivacious talkers, whose words outrun their ideas by mere volubility of organ and habit. However, write as he will, a letter from V. Humboldt can never be anything else than an intellectual feast. A mind so stored with the ideas of all ages and nations will find a richness (or create one) in any language it may use as its outlet.’ Seldom, if ever, have the characteristics of these three languages been described in a manner more forcible and striking, although the French is dealt with rather too severely; scarcely could the want of national pride confessed with so much *naïveté* by one of the first intellects of Germany have been animadverted upon with greater delicacy.

From these various considerations it will be seen that the step taken by Humboldt in writing to the Duke of Sussex, whereby he placed himself in the attitude of a suppliant before an august assembly with which he was wholly unconnected, was fraught with many difficulties. Should he, however, succeed in the application, and 'be fortunate enough to interest Great Britain, who, with the vast resources of her commercial position, had yet taken no part in this great scientific movement, since its inauguration in 1828,' the grand results to be looked for would reflect all the more honour upon him, and in this light he ever looked back upon this step with satisfaction. The letter is no less masterly than the 'cri de Pétersbourg' of 1829; it is couched in a tone of greater manliness, for instead of the courtly phrases rendered imperative in an address to the Russian autocrat, he had on this occasion but to express his appreciation of the valuable labours of the English men of science. In July Humboldt wrote to Gauss to express his agreeable surprise that the Commission of the Royal Society had already proposed to establish several stations:—'I rejoice to perceive that the impetus given through my letter to the Duke of Sussex on the subject of magnetism has at length aroused the Royal Society from their winter sleep of inaction.' The progress of the affair, conducted with the deliberation characteristic of the English, failed to satisfy his impatient expectations. In a letter to the Emperor Nicholas of August 11, 1839, he gives expression to his disappointment in the following complimentary passage:—'The Royal Society of London is still deliberating over matters which under your direction were carried out eight years ago.'¹ The more willingly did he acknowledge in 'Cosmos' the subsequent achievements of the English.

A second difficulty consisted in the claim justly raised by Gauss that a preference should be given to his improved apparatus above that devised by Gambey, and formerly employed by Humboldt, which was now almost obsolete. As early as the beginning of March 1836, Humboldt had, through the medium of Schumacher, printed the draft of a circular letter, because,

¹ De la Roquette, vol. ii. p. 108.

as he said, he could scarcely find his way amid the 'oft-patched rags' of his manuscripts, which 'were as much defiled by labels as before the Zollverein,' and because in former experience he had remarked 'that many corrections that escaped notice in the manuscript were *suggested* at once in the proof-sheets.' A copy of this was at once sent to Gauss, who took offence at the omission of his name in the proposed arrangement with London, Paris, and St. Petersburg. This gave rise to the expressions alluded to in the former chapter, where Humboldt complains of the aristocracy of science. He was, indeed, not sufficiently aware of the anxiety felt by Gauss to secure the best possible arrangement for the accomplishment of the plan, when, regarding the objection as a personal matter, he exclaimed:—'How *unsatisfactory* is the history of discoveries! This should not be the case for those who, like Gauss, have on other grounds acquired a right to the profound admiration of posterity.' With his usual amiability, Humboldt was the first to give way, and the offensive passage was altered so as to express 'that the Royal Society be solicited to enter into direct communication with the Royal Society of Göttingen, the Royal Institute of France, and the Imperial Academy of Russia, &c.' In a letter to Schumacher Humboldt explains the matter in the following characteristic manner:—'Our friend at Göttingen will be much gratified at finding his name put *first* on the list. I had not originally mentioned the Royal Society of Göttingen, because I had in my mind only those countries which had colonial possessions, and the Hanoverian domains scarcely extend beyond Hainberg. The precedence I have thus given to the Royal Society of Göttingen over the Institute will have to be apologised for in Paris, either as the rising of a *climax* from Hainberg to the imperial capital, or else on the ground of *courtesy* to the Duke of Sussex, from Göttingen being half English. In any case it will prove to the great mathematician that there is now at least no want of recognition of his valuable services.' How little there is here of that 'grand treatment of a subject,' for which, just at this time, he professed so great an admiration! The want of this was often apparent in Humboldt, not only in conversation but in a conversational style of letter.

The jubilee of the Göttingen University, held in the year 1837, was the first of many similar occasions in which Humboldt unexpectedly found himself, much to the discomfort of his natural shyness, a quality for which his brother had once commended him, the centre of attraction among a large and intellectual assembly, where he was vaunted as the 'Nestor of Science,' and the representative of modern, and especially of German thought. No sooner was his arrival at Göttingen known than he was welcomed by the students in a torch procession amid vociferous cheering. 'Taken by surprise, he returned an answer on the spur of the moment,' and as the speech was variously and somewhat incorrectly reported in the newspapers, he wrote it out as follows for publication by Varnhagen :—

'Among the various enjoyments that I have experienced during an eventful life, none have been to me sweeter or more elevating than the pleasure I now feel in this expression of your warm interest. Nearly half a century has passed since I received the most valuable part of my education in this renowned University. Many and vital changes have since then transpired in the political organisation of the country once so familiar to me in my scientific wanderings, but the bond of union established between the older generation passing away and the younger one rising in glorious vigour has throughout remained unbroken, from the fact that they all look up to the same *alma mater*. The Universities of Germany continue to exercise the same beneficial influence they did a century ago upon the free development of intellectual power and the right direction of a nation's energy. In the acknowledgment of this mighty influence, which formed a motive instigating the noble ancestor of your king to the foundation of this University, I present you, my dear friends, with deep feeling, the expression of my warmest gratitude.'¹

This address of Humboldt's was not without effect upon his hearers; he received numerous tokens of homage, and to him, as 'the highest guest at this jubilee celebration,' was dedicated an 'Ode, commemorative of the Jubilee of the University of

¹ Varnhagen, 'Vermischte Schriften,' vol. ii. p. 174; see also 'Briefe an Varnhagen,' Nos. 31, 32.

Göttingen,' by Carrière and others. It has been already remarked how much he enjoyed these days of personal intercourse with Gauss; his host on this occasion was Wilhelm Weber, of whose 'touching self-sacrifice' Humboldt speaks with gratitude. With his old love of learning he found time in the midst of the festivities to visit the library, and write out for Dove an important passage from the travels of Churruca upon the changes of the wind in the southern hemisphere. 'The passage,' he adds, 'has remained in my memory since I first read it in 1797,'—an interval of forty years!

From Göttingen Humboldt went in the month of September for two days to Hanover, where, besides visits of state to 'ministers, ambassadors, and court officials,' he sought an interview with Miss Caroline Herschel, whom he described as 'intelligent and cheerful as ever;' and with the same freedom that he had formerly enjoyed with the viceroy, 'the good and amiable Duke of Cambridge,' he conversed with the king, Ernest Augustus, upon the value and influence of the University. This obstinate monarch, who was even then preparing the decree by which the rights of the people were to be abrogated, and by which he was to make himself hated and despised both by his contemporaries and posterity, accorded to Humboldt a gracious reception, and gave him audience for an hour. He professed himself delighted with all he had seen at Göttingen, 'a finer set of young men had never come before him.' In his political sentiments he appeared to Humboldt to betray a mixture of fear and anger.¹ Scarcely two months afterwards followed the protest of the seven professors of Göttingen, which resulted within a month in their world-famous expulsion.² The important moral bearing of these events seems to justify us in furnishing copious extracts from Humboldt's letters, illustrating his position with regard to this affair. The most distressing circumstance to him, from its probable effect on the interests of science, was the threatened interruption to the joint labours of Gauss and Weber, as the latter, though not expelled the

¹ 'Briefe an Varnhagen,' No. 31; and various letters to Gauss.

² [The seven professors of Göttingen were expelled the University by King Ernest Augustus in consequence of their vehement protest against his abrogation of the Constitution granted by William IV. in 1833.]

country, was deprived of his appointment, and therefore could scarcely remain in Göttingen. 'How dreadful,' writes Humboldt in a letter to Gauss on December 25, in which, contrary to his usual custom, he takes the precaution of indicating the names by initials, 'how dreadful would it be to witness the destruction of a fruitful field, which only a few months ago seemed to be bursting into ear! I am haunted too by the image of your beautiful and interesting invalid daughter, and of the noble Ewald. I am *weak* enough not to desire the separation, and to believe in a *deus ex machinâ*—a mystical faith indeed.' The success that had attended Humboldt's efforts in the case of Henle, the anatomist, and other sufferers in the revolutionary disturbances, now emboldened him in the cause of so many men of worth to attempt to influence Hanover through the Court of Berlin; in this, however, he met with little encouragement. 'Many in the so-called upper regions of society,' he writes in the same letter to Gauss, 'are completely insensible to the nobility of mind to me so evident in the sacrifice, apart from the stimulus of political excitement, of every outward advantage to the voice of conscience. Our judgment is often warped by personal considerations. Time will, I think, bring about a more correct view of things. Neither you nor our mutual friend Weber can entertain any doubt of my sentiments.' Towards men of greater independence of thought he wrote in still stronger terms; on the following day, to Schumacher, he groaned over 'the tyrants of Hanover and Modena. What barbarity! The villains propose to disband the universities; they will not succeed, however, in doing away with that old-established institution, renewed day by day, that passes under the name of—youth.' 'How convenient for them if they could accomplish its extermination!' he remarks at the close of a letter to Letronne of the same date.¹ And in writing to Böckh he exclaims:—'What an infamous article appeared yesterday in our "Staatszeitung," copied from the "Hannoversche Zeitung," couched in a style of the most refined insolence, apparently written first in English by the iron pen of the *tyran de mélancolie* himself. One might

¹ De la Roquette, vol. ii. p. 154.

really be in Delhi. How can the word *Brotherr* have escaped him instead of *Dienstherr*? It would have been much more to his taste. The professors are therefore servants of the State, forming an elective corporation, where "*l'état c'est moi*." In this lethargic Germany such events are necessary for the development of freedom.'

Upon the visit of the King of Hanover to Berlin in the following summer, Humboldt, commissioned by Gauss, 'endeavoured to test the possibility of obtaining Weber's reappointment.' He proceeded 'with caution, and simply in *his own* name as a fellow-countryman and personal friend of Wilhelm Weber, as a former student of the famous University, and as the one most concerned in the sudden interruption of the great work upon terrestrial magnetism, which Gauss was carrying on according to his own valuable method of observation.' But he continues: 'Gracious as the king was upon several occasions, it was impossible, for reasons which you may well imagine, amid the whirl of court life, to find opportunity for conversation on personal matters. I succeeded, however, in securing the interest of two persons high in the king's esteem, General von C. and Count H. They showed more interest in the subject than could have been expected, even from men of science; they both felt there was a line beyond which it would be impossible to go. It will scarcely be appropriate in this letter, which I am writing amid many interruptions, to give you an account of the steps they have taken, or the opinions they have expressed. I restrict myself to the general results. The king promises to show all the lenity that is consistent with the attitude he feels bound to maintain. He would be willing to receive a proposition for the reinstalment if accompanied by a distinct recantation of all former protestations. It was urged in vain that the fact of soliciting for the vacant place of itself involved the promise of entire renunciation of political interference or expression of opinion. A recantation of the offensive expressions is insisted on. It will not suffice to say that they were misinterpreted, or taken in too severe a sense; they ought to have been more truly the expressions of the heart; there is besides no connection between lectures upon physics and politics. Your appeal for the assistance of a talented physicist is acceded to on scien-

tific grounds alone, not to interrupt a work advantageous to navigation, in which all Europe is interested, and by which a lustre is shed upon Göttingen. The answer has always been that the condition of explicit recantation could not possibly be dispensed with, as the king must not appear to vacillate in the course he has adopted, as by so doing he would be yielding to other German princes (the King of Wurtemberg was in Berlin) the right of bestowing appointments to the ejected professors. I write this with the deepest sorrow, as I see no way of redress. Supposing that the document were so drawn up as to meet every claim, and to satisfy the feelings of the petitioner, it is only too probable that while it would be withheld from publication, a statement would appear in the "Hannoversche Zeitung" to the effect that his Majesty had been induced to reinstate the petitioner on account of a recantation. The king, too, would be fully justified in so interpreting the petition. In the present conflict, the political interests of the executive power, or rather the views taken of these interests, are at variance with the moral sense of our friend. Not that I should in any way regard it as a breach of moral feeling to conclude a separate peace in this unhappy campaign, but other considerations are involved, arising from the position of a university professor, and out of the excited state of the students. I believe, my dear friend, that in this matter, which concerns me as much as it does science, I have done everything that it was possible to do. We have at all events attained some decisive points. It is something to know exactly our present position. If these events had not occurred I should I confess have been inclined to instance the example of France, where I have been a spectator of so many changes in the government and constitution. It would be well if scientific *institutions* could hold themselves aloof from all political movements; I say institutions, for you will naturally believe, from the opinions I have everywhere openly expressed for the last forty years, that I do not mean to commit the atrocity of wishing that men of science should not also be citizens, and exert a beneficial influence upon the growth of intelligence, the elevation of our race, and the free communication of thought and feeling.'

In order to form a just estimate of Humboldt's views and

conduct with regard to the affair at Göttingen, it is important not to overlook the degree of political enlightenment then prevalent. The immense excitement caused by the courageous deed of the seven proves that it was regarded as an instance of extraordinary manly courage, although in the present day it would probably have elicited no more attention than was accorded in those days to the magnanimous conduct of Jacob Grimm. In discussing the question Humboldt showed no lack of power or deviation from his known liberal sentiments; he even recognised with keen insight the important bearing of the event in awakening a spirit of freedom in the 'slumbering' nation. Can we forbear expressing the wish that he had made a public avowal of his opinions? What a powerful effect a fearless word from him might have produced! And, as far as we can see, no evil would have resulted to himself; in the position he occupied in the eyes of all Europe, none would have dared to threaten him either with imprisonment or banishment. To him a momentary disgrace could only have tended to a more enduring fame. But he ever eschewed interference in public affairs; at no time of his life could he be called a politician in the modern acceptation of the word. As he was ever the friend of the oppressed, he was willing to lend his assistance to the seven ejected professors of Göttingen; but in rendering help confined himself to his usual weapons—the arts of diplomacy. Even on this occasion, his noble intentions were burdened by a thousand considerations, to which, much as he felt their pressure, he had, through court life, become almost habituated. Instead of acting, he was content to negotiate.

Another point which ought not to be overlooked, is that he was throughout life essentially the man of science. It was with him as with Archimedes, and nothing was so repugnant to him as brute force ignorantly trampling upon the cause of science. Had it been possible, he would much have preferred that the Göttingen professors had submitted in silence. What after all were a couple of years of political suffering compared with the undying interests of science? We cannot acquiesce in the artificial distinction he made between individual men of science and scientific institutions. For though he may be justified in regarding the latter, as such, to be far removed

from the agitating questions of politics, how can the duties which belong to men individually be ignored when a necessity for united action arises in an association of the first men of the age? On this point he thought unworthily even of his Parisian friends. When, after the usurpation of Louis Napoleon, Ranke, in conversing with Humboldt, expressed his opinion that the Institute would not acknowledge the head of the new *régime*, Humboldt contemptuously replied that he had witnessed the cringing of this Assembly to Josephine, and that he had no doubt it would again be capable of a similar humiliation. So little confidence had he in human constancy! The Institute, however, which, during the late German war, evinced perhaps a too prominent sympathy with national politics, never wavered in its determined opposition to the second empire. In Humboldt's mind, all confidence in the political development of the characters of his day was destroyed by the fact that he had become, as it were, deadened to political events by the vast changes he had witnessed during the period of the French Revolution and the career of Napoleon. It was during these convulsions that his mind became impressed with 'that gloomy vision of the perpetual struggle of races, the interminable war of nations, the wearied and troubled existence,' which 'man prepares for himself amid the false splendours of a high civilisation;' it was chiefly through these scenes that he became imbued with that doubting and almost despairing mood characteristic of Rousseau, which is traceable in these and many similar passages in the 'Aspects of Nature;' it was in consequence of this melancholy experience that he renounced any belief he might have shared with his brother in the genuine progress of enlightened ideas in the world's history—ideas which can only flourish when entertained by men who live for them alone, and who, if need were, would for them willingly die.

We gladly now turn from this sad aspect in the life of our hero to the consideration of the scientific labours with which he was occupied during the ten years now before us—from 1830 to 1840. Foremost of these stand his two works upon Asia, published by Gide in Paris, the first of which, '*Fragments de Géologie et de Climatologie asiatiques*,' appeared in 1831, in the form of two octavo volumes, while the larger and

more comprehensive work, '*Asie centrale; Recherches sur les Chaînes de Montagnes et la Climatologie comparée,*' was only published twelve years later in three octavo volumes. They were companion works, the first forming the sketch for the fuller development of the subject in the latter work. It can never have been Humboldt's intention to give to the results of the Asiatic journey the literary prominence or elaborate and comprehensive treatment he had bestowed on the results of the American expedition. Many objections could be urged against such a plan. His advanced age seemed to forbid a second similar undertaking; he had no longer any means to expend; and he had no hesitation in confiding to the younger men of science by whom he was accompanied the working out of important sections of the results that had been acquired. He had, besides, already planned the great work of '*Cosmos,*' though as yet on a much more limited scale than it subsequently attained during those peaceful years of 'improbable' life, as he loved to designate them.

The shorter expedition to Siberia was, moreover, vastly inferior in importance to the American journey, both in its scientific aspect and in its effect upon Humboldt, to whom it served but to confirm, extend, and complete the fundamental ideas he had acquired in the New World. He felt the importance of publishing as soon as possible the results of the Eastern expedition. When visiting Paris, in October 1830, he read before the Institute a preliminary report, and furnished several treatises for the '*Annales de Chimie et de Physique,*' and for Poggendorff's '*Annalen;*' these papers, when collected and enlarged by the addition of a valuable contribution from Klaproth on Chinese literature and the Mongolian dialects, constituted the '*Fragments de Géologie et de Climatologie asiatiques.*'

In a few years the necessity of a new edition became apparent, although the undertaking was postponed till the year 1839, mainly on account of the '*Examen critique*' being still in course of publication. It was not, however, till 1843 that the work made its appearance, as its progress had been interrupted by various calls from home and 'by the grievous calamity which befell the country' in 1840, as Humboldt was accustomed to

designate the death of the king. In addition to the revision of the press, much care was bestowed on the preparation of an elaborate 'Carte de l'Asie centrale,' which as greatly exceeded the 'Carte des Chaines de Montagnes, etc.,' published in the 'Fragments,' as did the 'Asie centrale' the earlier and smaller work. A reproduction of the 'Fragments' was indeed so little to be thought of, that Humboldt was fully justified in giving a new title to the work in its enlarged and more complete form; though the title he selected scarcely expressed its full significance, for in describing the mountain chains of Thianchan, Kuen-lun, and Bolor, Humboldt had exceeded the limits of Central Asia. In comparing these works it is evident how greatly Humboldt's views had become enlarged, during the intervening ten years, by the mass of new facts collected—facts which he well knew how to arrange around new or old-established centres of thought. In the 'Asie centrale' he has displayed, perhaps more than in any other book, that art which he describes in the introduction as the characteristic of modern science—'the art of collecting and arranging a mass of isolated facts, and rising thence by a process of induction to general ideas.' This is shown in the attempt to ascertain by calculation the mean elevation of entire continents; but in order to appreciate the vast range of facts subjected to this inductive reasoning, it must be remembered that besides the description of mountain ranges, with details of their geological structure, Humboldt's researches in Asia comprised also magnetic and astronomical observations, descriptions of climate, official reports upon the mines of the Ural and the gold fields of Siberia, and a variety of information concerning Chinese literature, illustrated after the death of Klaproth by valuable notes from the pen of Stanislas Julien. In this way there gradually grew under Humboldt's hand another grand and comprehensive if not highly finished 'picture of nature,' although he modestly asserted that he had confined himself in the compilation of the work 'to that which in the present state of our knowledge was most new and authentic.' The fragmentary character of his own observations led him eagerly to avail himself of the results obtained by other explorers sent out by the Russian Government; for this material he was indebted to Count

Cancrin,¹ by whom it was communicated with the knowledge and consent of the Czar, it seemed therefore but an appropriate act of gratitude to dedicate this more complete work to the Emperor Nicholas.

If to Humboldt the importance of the Asiatic expedition consisted in its elevating him above the one-sided effect of having contemplated nature exclusively in the *New World*, and in leading him, so to speak, to feel experimentally that the earth, in common with every other object, is possessed of opposite sides, it is easy to understand why the work upon Central Asia, slight as were the data for the systematic configurations of the earth's surface, yet presents a grander view of *comparative geography* than had been manifested in any of his previous writings, much as he loved this branch of science, and fully as it was afterwards developed in '*Cosmos*,' of which the first two volumes were at this time near completion. It was in this year that Karl Ritter, designated by Humboldt in the introduction to the '*Asie centrale*' as 'my distinguished and highly valued friend,' was occupied with a new delineation of Asia for his '*Universal Comparative Geography*,' and it is only in the present day, as it is expressed in '*Cosmos*,'² 'that *comparative geography* has received a treatment worthy of the subject, in showing its connection with the history of the human race and the advancement of civilisation, inasmuch as the configuration of the earth is proved to have been an important element in the dispersion of nations.' That Humboldt felt that he had derived considerable assistance from Karl Ritter's work on Asia, is evident from the following letter of acknowledgment addressed to him in 1832, upon the receipt of the first volume of the second edition:—'I am quite unable, my dear friend, to find in any language suitable expressions whereby to convey to you an adequate conception of the genuine *admiration* with which your gigantic work upon Asia has filled me. For the past two years I have been eagerly occupied, with the assistance of every source of information, upon the study of Central Asia, and yet upon how many points has light burst in upon me

¹ Introduction to the '*Asie centrale*.' '*Briefwechsel mit Berghaus*,' in several letters throughout vols. i. and ii.

² '*Kosmos*,' vol. ii. p. 60.

during the three days that I have spent uninterruptedly in the perusal of your work while at Potsdam, Paretz, and here! You are acquainted with *everything* that has been for centuries observed, all is arranged with your characteristic acuteness, familiar materials assume a new and important aspect, and the whole is reproduced with the most admirable clearness. To this is added the charm of vivacity, and occasionally even of much elegance of style. I take quite a pleasure in tormenting you with my praise; I have repeatedly lauded you before the king and crown prince, and even before the ladies of the court, with whom you are unacquainted, for I have the *unfashionable* propensity of exulting in the merits of others. I have told the king that it is the most important work that has appeared for the last thirty years, &c.¹ In another letter, he again alludes to it as 'the most important work now being brought out in Germany, and, from its colossal structure, is worthy of greater admiration than it is likely to receive from the inhabitants of this frivolous city.' This admiration, which finds frequent expression throughout the whole of the 'Asie centrale,' was to some extent a counterpart of the powerful influence which Humboldt exerted upon Ritter by his descriptions of his American journey, on their first interview at Frankfort-on-the-Main, in 1807. 'You may easily perceive,' wrote the latter to Gutzmuths² on that occasion, 'how completely lost I have been to everything around me all these days, and have had neither time nor thought but for him by whom my interest and attention have entirely been absorbed. Never have I received so charming and perfect an image of any region of country as that derived from Humboldt's description of the Cordilleras. My sympathy with him was all the greater, from having eagerly read all his works as fast as they came out.'

The science of comparative geography, which has subsequently engaged the attention of various scientific investigators, was at this epoch followed only by two men of scientific eminence, and it is remarkable that they should have studied it from positions widely different. Ritter, in his somewhat

¹ Kramer's 'Karl Ritter,' vol. ii. p. 120.

² Ibid. vol. ii. p. 107.

extravagant address delivered on August 4, 1844,¹ on the celebration of the fortieth anniversary of Humboldt's return from America, speaks of that return as a 'culminating point in the history of science and in the annals of civilisation.' 'Nature,' he remarks, 'as displayed in both hemispheres, was exhibited for the first time in all the power of her contrasts, and in her strongly marked individuality; in her harmonious obedience to law, and in the rugged grandeur of her sublimity. The confusion resulting from chance being regarded as the arbitrator of existence was completely set aside, and in its stead there was brought out a harmony hitherto unsuspected in the causes of the multifarious phenomena of Nature; science in all its branches and speculative thought were elevated to a higher platform, and every civilised nation taught to realise the wealth it possessed in the productions of Nature.' In this address, Ritter distinctly states that 'comparative geography was originated by this expedition,' and modestly adds that, 'in a time of universal drought it was from this source that his own feeble endeavours to trace, within a limited field of research, the connection between remote districts of the earth, derived their chief stimulus.' The extravagance of these expressions must be viewed in the spirit in which they were regarded by Humboldt, who, with much tact, in his reply, termed them 'hyperboles of friendship,' in which 'endeavours are described as deeds, projects as accomplished facts, and a prominence given to the individual which is due in reality to the community or to the age in which he lived.' The relationship existing between the geographic labours of Humboldt and Ritter, after making allowance for the extravagance of their mutual admiration, is somewhat as follows. Though it may be erroneous to attribute to Humboldt the influence in the growth of comparative geography ascribed to him by Ritter, it nevertheless seems a fact that to him is due the first conception of the science, but the stimulus of Ritter's powerful mind seems to have been requisite to give to this conception a vivid reality. Valuable as were the geographical results contributed by Humboldt in his great works on America and Asia, he was yet

¹ 'Zeitschrift für allgemeine Erdkunde,' New Series, vol. vi. p. 384.

gradually led to contemplate the universe in the higher aspect depicted in 'Cosmos,' where local peculiarities are attributed to modifications of general laws. To make the contrast more forcible, it might be said that Humboldt brings out the law even where it is shown in isolated phenomena, while Ritter points out isolated phenomena while showing their connection with an established law. In the chapter in the first volume of 'Cosmos,' 'On the Limits prescribed to a Scientific Delineation of the Physical Phenomena of the Universe,' Humboldt has taken great pains to mark the distinction between the contemplation of Nature in her unity—an idea that had long presented itself before his mind—and the pursuit of science in its various branches, also between the description of physical phenomena and the same phenomena brought into comparison with other facts in Nature; but that he failed always to realise this distinction is proved by the circumstance that in the specific description of Nature in the fourth volume he has introduced 'the list of active volcanoes,' which in the first volume had been theoretically rejected. If from this it is evident that there were many points of sympathy, and opportunities for mutual assistance, in the studies engaging the attention of Humboldt and Ritter, it is also evident that they mutually availed themselves as much as possible of each other's labours. In all points of physical science Ritter must be regarded as Humboldt's pupil, while Humboldt, on his part, knew how to value and appreciate, as the letter above quoted amply testifies, the remarkable extent of his friend's historic knowledge. It was undoubtedly through their joint labours that physical geography was raised to the dignity of a science.

The strong taste for historical research ever conspicuous in Humboldt was never more apparent than during the ten years to which this chapter is devoted. The '*Examen critique de l'Histoire de la Géographie du Nouveau Continent, et des Progrès de l'Astronomie nautique dans les XV^e et XVI^e Siècles,*' forming the text to the '*Atlas géographique et physique,*' published in 1814, was brought out by Gide towards the close of 1833 as a single folio volume, the octavo edition not being published till 1838. The origin of this work may be traced to the period Humboldt spent at Paris while engaged in the publication

of his travels in America; indeed, he himself describes his historical researches as 'abstracts of various labours which he had followed out in the leisure that he had been able to devote to these favourite pursuits during the last thirty years;' that is to say, since his return to Europe. These studies were not followed with any persistency till after the year 1825, when they received a fresh impulse through the publication of some important Spanish documents, to which was added in the spring of 1832 the stimulus of Humboldt's fortunate discovery of Juan de la Cosa's map in the Walckenaer Library at Paris: this led to the completion of the work in two sections—'On the Preparatory Causes which led to the Discovery of the New World,' and 'On some Facts relating to Columbus and Amerigo Vespucci, with a Treatise on Geographical Discovery.' From the value of this work it is to be regretted that two other treatises on kindred subjects were never brought to completion; the one, 'On the Earliest Maps of the New Continent and the Name of America,' appearing only in an abridged form appended to Ghillany's 'History of the Navigator Martin Behaimb' (Nuremberg, 1853); and the other, on 'The Progress of Nautical Astronomy and the Art of Map Delineation during the Fifteenth and Sixteenth Centuries,' being given merely in outline in the notes to 'Cosmos.'

As far as the mode of treatment is concerned, the 'Examen critique' fully deserves its appellation. By this work Humboldt raised himself to the rank of the first critical historian of Germany: the three qualifications of an historian, as laid down by Ranke in the instructions to his classes, namely, 'critical power, accuracy, and discernment,' were vividly before his mind. He spared no pains in the collection of authentic material: the information he had gathered by his own extensive reading was vastly increased by the happy power he possessed of inducing even the most learned investigators of the day to communicate their stores of knowledge. Nor was he less anxious to consult their judgment as to the importance of individual passages; but it would be doing him an injustice not to admit that with most of these questions he was himself fully able to grapple. In historical criticism he was guided by the axioms now universally acknowledged, and felt the necessity of avoiding

hasty conclusions based upon the silence of an author.¹ The accuracy attained through the adroit treatment of doubtful points in his researches upon the history of discovery, and the firm line of argument carried through a crowd of suggestive facts, the tedium of which is relieved by a judicious distribution between text and notes, may justly excite admiration. His discernment and discriminating use of material is brilliantly displayed in the descriptive portions of the latter section, especially in the masterly sketch of the character of Columbus. Humboldt points out this passage with just satisfaction to his critical friend Varnhagen,² as one which had delighted his Parisian audience 'as a burst of feeling welling up in the midst of dreary deserts of technical erudition.' Nevertheless these dreary deserts have a no less important function to perform in the organism of the complete work.

In attempting to estimate the strength of Humboldt's predilection for historical research we must not confine ourselves to the 'Examen critique,' which Humboldt himself terms a 'History of the Geography of the Middle Ages,' or to the historical portions of the 'Asie centrale,' the same bent of mind is equally displayed in the works on America, the 'History of the Rise and Progress of Science,' in the second volume of 'Cosmos,' and the numerous historical notes illustrating that work. His interest was most powerfully drawn to the history of civilisation in reference to the study of Nature and her subjugation to the wants of man. With his strong love for science, it can be no subject for surprise that in history his attention should have been mainly directed towards tracing the progress of its development. Political history possessed few charms for him, and, as we have seen, he had no confidence in political ideas. The indifference with which he regarded the apparently aimless changes in the outward policy of nations may perhaps be ascribed to the impressions produced on his mind by the revolutionary age in which he had lived; this receives confirmation from the negative views of state policy early expressed by William von Humboldt in his essay upon 'The Limits of the Power of the State,' in which

¹ 'Briefe an Varnhagen,' p. 58.

² Ibid. p. 57.

no doubt Alexander fully sympathised. In seeking a cause for his love of historical research, it may be remarked that it is a characteristic of the German mind to seek to penetrate with dauntless effrontery into the remotest depths of the past; it is a philosophic trait among German students of science to seek, even when engaged in experiment, the relatively final cause, although the absolute final cause lies beyond the reach of experiment. In Humboldt this bent of mind was strongly developed: who is not familiar with the zeal he displayed in tracing out the first germs of scientific inquiry, and bringing to light the earliest presages of intuitive knowledge? In this mode of thought he was largely influenced by a variety of other motives arising out of the noble qualities of his disposition. He was imbued with a great respect for all that was original and ingenious, especially for every intuition of the mind; while justly controverting in his review of the age of Columbus the popular notion that grand discoveries are generally the result of chance, casual manifestations of the 'unknown,' and boldly asserting that they are much more frequently the result of well-directed effort, and the reward of oft-repeated and carefully devised experiment, he yet maintained that they were on this account the more deserving of admiration, since they were to be attributed to qualities of great moral excellence. His sense of justice prompted him to accord to everyone his due, while it led him to withhold all to which there was no claim. Frequent have been his sighs over the dull and sometimes hated task of tracing out the early record of scientific thought, in the untrustworthy and almost obliterated pages of the literature of the past; he may well speak of 'the slippery ice of the history of discovery, a kind of history that must have been overlooked by Cicero when he declared all history to be entertaining;' the notes to 'Cosmos,' however, afford such clear evidence of the time and energy he devoted to this uninteresting branch of history, that there can be no doubt that he was urged thereto by an uncontrollable impulse. One of the charms, doubtless, of these investigations consisted in being led back to the classic days of Greece, for which perhaps he entertained a more than usual veneration, derived probably from the enthusiasm evoked by the rise and develop-

ment of German literature. This subject was differently viewed by the majority of scientific investigators. Leopold von Buch, in writing to Humboldt, once remarked :—‘ Even had Strabo not described Etna as “bicornis,” I should not have been disposed to place much reliance upon his descriptions, for I make no account of his statement that Vesuvius was flat-topped, for it could not possibly have been so described, had he seen it in its present form. . . . I am afraid of relying upon the opinions of the ancients, except in matters of fact, for I always bear in mind that speech of Boileau’s when the French were contending for the superiority of the ancients above the moderns : “ M. de la Fontaine est si bête, qu’il croit que les anciens ont plus d’esprit que lui.” ’ The anomaly often apparent in Humboldt’s views is strikingly evinced in the criticism upon his brother, in which he expresses great veneration for the spirit of the ancients—‘ the reflection of *man in the highest stage of development* as revealed to us in the history of past centuries.’

Humboldt’s keen sympathy with the classic ages, calling to mind the enthusiasm of the Renaissance, was further stimulated by the historic bent of the present century, in which the enthusiastic feelings of the first Renaissance are replaced by a love of critical research, and incited him in the ‘ Examen critique ’ to trace the development of science in the Cinquecento period back through the middle ages to classic times. ‘ I am anxious to prove,’ he remarks, ‘ that the great discoveries of the fifteenth century were but the realisation of earlier presages.’ He was willing to admit that ‘ he had been led perhaps to too great elaboration,’ but he consoled himself with the thought that if ‘ the book were tedious, it was at all events most conscientiously compiled.’¹ His passion for carrying every branch of scientific inquiry to the farthest possible limits could never have found gratification, had he trusted merely to his own resources. In philology and history, the attention he had bestowed in early life upon these subjects enabled him to distinguish among his learned contemporaries those best fitted to assist him by their advice or criticism ; in

¹ ‘ Briefwechsel mit Berghaus,’ vol. ii. pp. 144, 109. De la Roquette, vol. ii. p. 153.

the compilation of 'Cosmos' we shall find that he adopted the same plan with regard to the various branches of science. In the 'Examen critique' he relied mostly upon Letronne and Böckh, with the latter of whom he was in frequent correspondence concerning the meaning of important passages in the classics, and the identifications of others, besides submitting to his criticism all he wrote upon the subject of ancient history. With regard, at least, to the commencement of the work, Humboldt was scarcely guilty of an exaggeration when, sending Böckh a copy, he remarked that to him mainly it owed its existence.' For the purpose of gaining a more comprehensive view of the subject, he enrolled himself among Böckh's pupils in order to attend his University lectures upon Grecian antiquities, during the winter of 1833-4, followed by those upon the history of Greek literature in the two succeeding years—attending meanwhile a course on chemistry by Mitscherlich. In this self-imposed task the man of sixty-five, ranking himself among his juniors, displayed his wonted zeal and energy. He regularly took his place, note-book in hand, among the University students, towards whom he conducted himself with courteous frankness. The unusual visitor soon became the subject of a crowd of interesting anecdotes. When his attendance was occasionally prevented by his duties at court, he would write from Potsdam to express regret at not being present at one of Böckh's 'magnificent lectures,' 'always an intellectual feast,' or he would intimate to the professor that 'to-morrow I hope to have the pleasure of again listening to your lectures, which are always philosophic, lively, and intellectual.' When writing to Böckh on March 15, 1857, to congratulate him upon attaining the jubilee of his degree of Doctor, he refers to the pleasure with which he listened to these lectures, in which 'your penetrating and reflective mind gave a comprehensive sketch of the elevating influence of Greece, and indeed of all antiquity. I still show with a certain feeling of self-complacency the manuscript in which, according to old-established custom, and in conformity with my fellow-listeners, I took down the lectures, though I confess to have never rewritten them from the somewhat illegible pencil hieroglyphics in which they now stand.'

These philological studies were of use in the compilation of the first two volumes of 'Cosmos,' the main part of which was composed at this period, although they were not published for ten years. While reserving to a future chapter a discussion of their contents, we may here give a slight outline of their progress. Towards the close of 1827, Humboldt, in compliance with a suggestion of Cotta's to publish the lectures he was then delivering, drew out a rough draft of a work upon 'Physical Geography;' on December 20 he made a proposal to Berghaus to prepare an 'Atlas of Physical Geography' in illustration of the subject, but owing to the long postponement of 'Cosmos,' the Atlas was eventually brought out in 1837 in a disconnected form.¹ Before starting on his expedition to Siberia, a preliminary contract had been entered into between Humboldt and Cotta, which, on being renewed some years later, was so far modified as to allow the printing to be conducted by Cotta at his establishment at Augsburg rather than at Berlin. This point had been very unwillingly conceded by Humboldt, who had an extreme horror of errors in printing—'Authors are much to be pitied,' he once exclaimed, 'to be so completely at the mercy of printers'²—and feared greatly that, owing to the illegibility of his handwriting, a South-German printer 'might make great nonsense of his sentences.' On May 1, 1837, in writing to Schumacher, he alludes to the subject in a tone of some excitement:—"I have made a splendid contract with Cotta's publishing firm, 5,000 thalers for forty-five sheets of "Cosmos." I am not bound to furnish more. As I shall be sure to die before fulfilling the contract (I feel already as if I belonged to the antediluvian period), the Swabian will not be brought into any great danger. Nevertheless the baby³ whimpered so much that I was obliged to give in and allow "Cosmos" to be printed at Augsburg, although contrary to the agreement made before the expedition to Siberia. . . . Cotta gives expense as a reason for not printing the work in

¹ 'Briefwechsel mit Berghaus,' vol. ii. pp. 117-9.

² Ibid. vol. ii. p. 210.

³ On the death of Baron Johann Friedrich Cotta, on December 20, 1832, his son George, who survived Humboldt some years, became head of the establishment.

North Germany; but the true reason is that he is *led*, or rather governed, by the managers at Augsburg, who are bent on concentrating everything.' Humboldt's dissatisfaction with his German publishers is evinced in this and many similar expressions with regard to the Cottas, while of Gide we are not aware that he ever made a complaint. He subsequently received from Baron George Cotta expressions of obsequious homage, almost exceeding the limits of good taste, inspired, it would seem, by the great success of 'Cosmos.' It is evident that Humboldt was not sparing on his part in the use of flattering expressions, from the extravagant tone of the following reply from his publisher to a letter of September 10, 1856:—'I blush with shame, my honoured Sir, at the expressions you have made use of, of which I feel wholly unworthy, as well as of your most kind recognition, which I have ever keenly striven to merit, though without daring to hope for success. While others cause to be placed upon their shrine the decorations and marks of distinction they have borne in life, it will be my desire that my children, when this heart shall have ceased to beat, shall place thereon your valued letters, for your approval has ever been my greatest honour in life, and will constitute my greatest glory hereafter.' That these expressions of gratitude were not confined merely to words, appears from a letter of December 26, 1858, having reference to a gift of money—probably to be refunded out of a future payment to Humboldt—conveyed to Seifert, Humboldt's attendant, for whom the aged philosopher in the latter years of his life often condescended to solicit aid in a manner he would never have done for himself. 'With me,' writes Cotta, 'it suffices to know your wishes to at once respond to them as far as lies in my power. I rejoice that you have given me the opportunity of expressing to your Excellency my heartiest good wishes for the new year, and allowed me to accompany them with an enclosure which, though apparently only a shabby piece of paper, will bring some amount of pleasure to those who are in attendance upon your dear person, and serve you with love and devotion. I should have the greatest pleasure in making happy all those whom you would wish to please. Pray receive the enclosed trifle, not because it gratifies

my wish to please, but because it is offered with heartfelt pleasure to those who are privileged to be near your Excellency, towards all of whom, without exception, I cannot but entertain a feeling of envy.' Humboldt was certainly not free from blame in allowing this business correspondence to degenerate into such an offensive extravagance of phraseology.

In the autumn of 1834, Alexander von Humboldt commenced the publication of the great work of his life. On October 24 of that year, he laid before Varnhagen the plan of the entire work, requesting him to revise critically the first part of the manuscript.¹ Among the various learned men upon whom Humboldt, like a constitutional monarch, devolved the responsibility of the compilation of 'Cosmos,' Varnhagen in his criticisms for style represented, as it were, the Minister for Foreign Affairs. While acknowledging with the utmost frankness the 'leading faults of his style,' to which he was by no means insensible, the experienced man of the world, by flattering the vanity of his literary friend, obtained complete command of his weak side: 'Your talent for graceful writing is so remarkable, you are so highly intellectual, and enjoy so independent a position, that you will not, doubtless, reject forms of expression merely on account of their individuality, or because they differ from your own.' Four days later, Humboldt thanks his literary counsellor for 'the complete manner in which he had entered into the spirit of his endeavours,' only he had taken too much pains and bestowed too much praise. 'Your remarks,' he continues, 'are characterised by so much taste, delicacy, and acuteness, that the corrections have formed an agreeable employment. I have adopted nearly all your alterations, more than nineteen-twentieths; the editor is always allowed to have a little self-will!' This had reference to the introductory remarks to the first volume, which had formed the opening lecture at the Music Hall. It seems, however, that the 'Prolegomena,' by which term Humboldt designated all that was subsequently contained in the first two volumes, were for 'the most part complete.' This appeared to him as 'the

¹ 'Briefe an Varnhagen,' Nos. 16, 17.

most important part;’ the treatment of special subjects was to form the second portion of the work. He was still in hopes of comprising the whole in two volumes, as at that time the ‘Prolegomena’ were by no means in the form they afterwards assumed. It had originally been his wish to compress them into one volume, that, ‘through brevity, the impression produced might be all the more powerful.’ It was at this time that he decided upon the title. Rejecting the one he had adopted in 1819, when in Paris, ‘*Essai sur la Physique du Monde*,’ and equally repudiating that by which it was to have been known in Germany, ‘*Book of Nature*,’ he fixed upon the ‘distinctive’ title of ‘*Cosmos*,’ in order that it might ever be quoted as such, and not as ‘Humboldt’s Description of the Physical Universe.’ He admitted that the use of the Greek word ‘savoured of affectation,’ but it had the advantage of including in one term *the Heavens and the Earth*. Justified by William von Humboldt in this choice, about which he had long hesitated, it is not unlikely that the Greek studies, upon which he had entered in preparation for the ‘*Examen critique*,’ had influenced him in selecting the word ‘*Cosmos*.’ He intended at that time to append the explanatory remark, ‘Amplifications of lectures delivered in the years 1827 and 1828;’ but as, during the progress of the work, it far exceeded the limits first prescribed, this addition was subsequently withdrawn.

At the meeting of the Scientific Association at Jena, in the autumn of 1836, the ‘introductory remarks’ of ‘*Cosmos*’ were read from the proof-sheets, as well as the treatise, ‘*Upon two Attempts to ascend the Summit of Chimborazo*,’ describing the ascents made by Humboldt and Boussingault, ‘the only living traveller,’ as Humboldt once somewhat boastingly remarked, ‘before whom I lower my flag.’ This paper originally appeared in Schumacher’s ‘*Astronomisches Jahrbuch*’ for 1837, and was published afterwards in an abridged form in Berghaus’ ‘*Journal*.’ During these years Humboldt published a great number of treatises on various scientific subjects. On February 9, 1837, and on May 10, 1838, two papers were read before the Berlin Academy, which, under the title of ‘*Observations, Geological and Physical, upon the Volcanoes on the Plain of*

Quito,'¹ subsequently formed the opening treatise in the 'Miscellaneous Writings;' in the spring of 1838, he contributed a paper 'Upon the Table-land of Bogota' to the 'Deutsche Vierteljahrsschrift;' and two months later he prepared a treatise for the same periodical 'Upon the Fluctuations in the Produce of Gold, as affecting the Problems of Political Economy.' Papers of less importance, 'Upon the Temperature of the Baltic,' and 'On some Electro-magnetic Phenomena and the Atmospheric Pressure within the Tropics,' appeared in Poggendorff's 'Annalen' at an earlier date, between the years 1834 and 1836. Some years previously—in 1831—he had brought out in Paris his 'Tableau statistique de l'Ile de Cuba pour les années 1825-9.' The enumeration of these, the most important of his smaller works, will suffice to show the extraordinary fertility of his genius at this period. Of his remarkable industry in other matters, it need only be mentioned that he never failed to find opportunity of indirectly furthering the interests of science by encouraging and assisting the labours of others. His correspondence with Berghaus is one instance among many of his zeal for the extension of new investigations, and ready assistance in the solution of scientific problems. In the meantime he never neglected, as far as lay in his power, to secure to young labourers in the field of science a substantial reward for their services; he often solicited for them pecuniary assistance, occasionally encouraging them to make known their achievements to persons of influence, in some cases even to the king, especially when their efforts were in any way connected with the interests of the country, as for instance in the delineation of the relative heights of the mountain ranges in Pomerania, and in giving this counsel he did not forget to add the practical advice, 'to mark the places of note with red ink or chalk, so that they may at once catch the eye.'²

It is unnecessary to give any particulars of the thousand requests for assistance that reached him from every quarter, for the support of universities, public libraries, and other institu-

¹ First published in Poggendorff's 'Annalen,' vol. xlv., enlarged in the 'Kleinere Schriften.'

² 'Briefwechsel mit Berghaus,' vol. ii. p. 186.

tions, the increase of salaries, the bestowment of decorations, presentation of literary productions to the court, mediations for purchases, loans, and every other conceivable undertaking. Nor will it be deemed necessary to give any prominence to the exertions he made for the election of academicians. 'When an election is going forward, I give myself no more rest at Berlin than at Paris,' he writes to Dirichlet in 1839, at the time that he was canvassing for the admission of Magnus. From amid the crowd of such events, characteristic rather of the whole course of his life than of any particular period, we select one of especial interest—his intervention with Christian VIII., upon his accession to the throne of Denmark, on behalf of Schumacher, who had appealed for help on his own account, and in favour of the Observatory, of which he was director. On December 18, 1839, Humboldt writes to Schumacher:—'I have had great pleasure, my dearest friend, in fulfilling your wishes. I had seen a good deal of the king when he was at Paris, on his way home from his dangerous ascents of Vesuvius with Davy and Monticelli. At that time he showed great kindness to me and Arago, so that I was able to found my letter upon these agreeable reminiscences, while I allowed my chief motive to appear to be my wish to congratulate him upon his accession to the throne. After touching upon politics, and giving him some information upon the state of affairs at Potsdam, I alluded to yourself, and to the close intimacy we enjoyed. All this came on naturally, and was embellished with many ornamental phrases which I need not repeat. I then proceeded:—"At a moment when, under the happy auspices of a new reign, many wishes arise seeking for fervent expression, it may perhaps be permitted to an old man, who has travelled from the Orinoco to Siberia, and who will shortly have to number himself among the fossils of a by-gone age, to solicit the august protection of your Majesty in favour of the astronomical and geodetic labours which have long added a lustre to the national glory. The motives by which I am actuated in making this request, I confess with pride, have their origin in the affectionate regard I have long entertained for the distinguished and zealous Director of the Observatory at Altona, by whose friendship I am honoured.

It is due to the extraordinary activity of Herr Schumacher, and to the immense range of his knowledge, that Altona has become in the eyes of all Europe a centre of practical and theoretic astronomy. I am aware that this illustrious man of science, who has secured warm appreciation both in England and France, not only by his astronomical labours, but by the attention he has recently devoted to the system of weights and measures in use in his own country, already enjoys the kind consideration of your Majesty, but it would be a great gratification to me to think that my feeble voice had been of service to one who is so dear to me, and who has the happiness of being one of your subjects." I committed the letter to the ordinary post, enclosed in a sumptuous envelope directed to the king at Copenhagen, "de la part du Baron de Humboldt," in order that it might not find its way among the begging letters. . . . I did not think it desirable to forward you the letter, as it might possibly have placed you in a false position, and it would have prevented the step appearing as a voluntary act on my part.'

This well-directed flattery called forth from King Christian an answer no less elegantly worded; the letter bears date January 13, 1840, and is known in the Varnhagen collection as the 'black salamander.'¹ Immediately on its receipt Humboldt wrote greatly delighted to Schumacher:—"I have received a long letter from your king, written in his own hand; it fills four pages.' He promises at some future time to transmit a copy of it to his friend, but in the meantime cannot resist the temptation, 'just before starting for Potsdam,' of transcribing 'a few sentences,' which amount in reality to half the letter. 'This is all,' he continues, 'in every way most amiable, simple, and in the highest French style, such as used to flow from the historical heights of Sanssouci, therefore with an excess of politeness bordering upon exaggeration. You see, my dear friend, that I have to thank you for this correspondence, of which I shall only avail myself at rare intervals. [King Christian had expressed a wish that the correspondence might be continued.] This letter is for me

¹ 'Briefe an Varnhagen,' No. 44, also No. 43.

"le menuet de Madame de Sévigné." You see I am as much intoxicated by it as that celebrated lady was when her vanity was highly flattered by dancing on one occasion with *le grand roi*. You will, I think, be glad to notice that no one could guess from the king's letter the chief subject of my communication.' The pleasure experienced by Humboldt from this agreeable encounter with the Danish monarch again finds expression in a subsequent letter to Schumacher on March 11, 1841, in which he remarks:—'There is a great preference evinced in the highest regions here for Denmark, or, as I should rather say, for your admirable and benevolent sovereign. Two such kings are worthy of mutual appreciation.' In the ensuing chapter reference will again be made to Humboldt's connection with Christian VIII.; it is here alluded to merely as an evidence of the amiable use he made of his powers of diplomacy in furthering the wishes of his friends.

During the closing years of Frederick William III., Humboldt's life at court was passed with its accustomed uniformity. The only change of any importance was, as he complains in 1839, the opening of the railway between Berlin and Potsdam, 'which considerably increased the interruptions occurring in his very unliterary and hatlike existence, in consequence of the more rapid oscillation between the two royal residences.' On this account Humboldt was obliged to reside more frequently than formerly at 'the once famous heights of Sanssouci,' where he lived in close companionship with the crown prince, 'from whom, as you know,' he remarks to Schumacher, 'I can look alone for intellectual enjoyment.' That the king's society yielded him but little of such pleasure, we have already learned through earlier admissions, and the duties 'of a very prosaic character' which devolved upon him during the summer visits to Teplitz became increasingly irksome. He jokes with some show of ill-humour at 'the gush of princes' streaming thither, and upon 'the elephants of the great world stretching out their trunks to one another.' 'You are aware,' he writes to Böckh, 'that the result of the periodic repetition of this piece of comedy is that the world revolves daily with no improve-

ment, and that one may desire a great deal without being able to do anything.'

The consciousness of the increasing lethargy spreading over Germany, and making itself felt in political feeling throughout Prussia, was experienced with great bitterness by Humboldt, during the years preceding the death of the king in 1840. Even in the spring of 1836, he wrote to Bunsen from Potsdam: '—To me everything here has become grey, dark, and unenjoyable; pity that with increasing age one cannot grow indifferent to the want of elevated views in political life! All around me is like a desert—so completely desert that there is absolutely no one about me to understand why I grieve.' There is no evidence of his having taken any active part in the contest that broke out at this period between Church and State. And in the religious movements of the times, as for instance in the outcry from Zurich against the appointment of David Strauss, he very justly saw 'no new phase in the life of the people, but rather, under the cloak of religion, a repetition of the same miserable spectacle with which the world had grown weary, the incessant strife between the "hornmen" and the "clawmen"—between the Montmorencys of the land of the Havel and the people.'¹ It was therefore only out of curiosity that in the spring and summer of 1840 he lent to the Quakeress Mrs. Fry the weight of his patronage by introducing her into the highest circles at Berlin, whom she was to enlighten by her addresses.² In matters relating to the internal administration Humboldt felt more and more constrained; in monetary grants³ and official appointments Altenstein displayed illiberality, and was difficult to move, while the crown prince, who was not lacking in energy, possessed but little influence. 'It is best to wait,' was the laconic expression of Humboldt's feelings of resignation in the autumn of 1839.⁴

¹ 'Briefe an Bunsen,' No. 20.

² Ibid. No. 30.

³ 'Briefe an Varnhagen,' No. 46. Max Tietzen, 'Zur Erinnerung an H. Steffens' (Leipzig, 1871), p. 50.

⁴ Especially with reference to the grant to Schelling. 'Briefe an Bun-en,' Nos. 18, 19.

⁵ 'Briefe an Bunsen,' No. 30. There is no doubt that the portion of the letter omitted contained a pointed allusion to the death of the king.

It must not be viewed altogether as a want of right feeling, or as ingratitude towards his sovereign, that on the imminent approach of the death of King Frederick William III.,¹ Humboldt should have secretly regarded that event with hopeful anticipation. Such an anticipation was not, indeed, entirely of a selfish character, for he was too well acquainted with the crown prince not to expect that his accession would bring him increased, if not incessant interruptions. During the summer of 1839, Humboldt had derived great benefit from his quiet stay at Paretz, 'in the peaceful retirement of the land of the Havel,' after his usually remarkably robust health had been completely upset by the first of a long series of attacks of influenza, 'that senseless definition of a pathologic X!' It was far more the hope of forwarding the interests of science, to which he might lend assistance by his counsel and direction, that led him to look forward with pleasure to the accession of a prince upon whom not merely his hopes, but those of all Germany, one might say of all Europe, were fixed, anticipating for Prussia a period of glory similar to that she had enjoyed a century before. That Prussia needed such a regeneration was not to be denied. It was reserved to Bishop Eylert, the court chaplain, to discover that, in addition to incontrovertible virtues, Frederick William III. possessed 'a clear cosmopolitan view of men and things:' by the bishop's own confession, however, these views 'were unquestionably to be ascribed to Alexander von Humboldt, and that not by direct influence, but indirectly through opportune conversations.' 'His aim,' continues the good bishop, 'had not been to make the king tolerant and popular; this he was already by natural disposition. To the king it had become a necessity to hold daily converse with this man of noble spirit and childlike simplicity, before whom a large portion of the world had passed under personal observation, and from whom he received with ever-renewed pleasure a flow of instructive conversation upon the scientific and political topics of the day. Humboldt, who during his long life had ever been devoted to the close observation of nature, both in a practical and theoretic point of view, was accustomed to

¹ In a letter to Jacobi of August 21, 1840.

express himself with feeling eloquence in daily intercourse with his sovereign. The well-digested and clearly expressed thoughts of this intimate companion upon the "enjoyment and description of Nature, and the study of her laws," uttered in daily converse in the garden, or while travelling, were listened to and pondered by the royal auditor, by whom in calm reflection they were eventually appropriated and assimilated. His mind was thus gradually led to the recognition of the great analogy between nature and revelation; in both he discovered the same laws, the same miracles, the same mystery, and in both he adored the same Creator; in both gifts he owned with gratitude the same Giver, and thus secured certainty in his knowledge, peace in his faith, and calm repose in the happy tenor of his life.¹ When conversing with such men as Alexander von Humboldt, it was a gratification and a pleasure to listen to him, so clear, deep, and full was the stream of his simple eloquence.² It was to Humboldt that the king was indebted for his familiar acquaintance with the literature of the day.³

We have given this flattering encomium in full, since it contains the only valid and consistent comment upon Humboldt's relationship to Frederick William III. that has been expressed by an eye-witness. In order to form a due estimate of the truthfulness of this picture, it is only necessary to point out the characteristic attributed to Humboldt of a simplicity almost childlike; as Eylert could have had no inducement to idealise Humboldt at the expense of the hero of his biography, it is evident how little value is to be placed upon such expressions as the 'clear view of men and things' and 'the full stream of eloquence' displayed by the king in conversation. The relative truth of the picture is however undoubted; and to this friendly intercourse with Humboldt was the monarch unquestionably indebted for most of his ideas upon general subjects, and much of his appreciation of high art—so far at least as no direct religious element was involved, as, from

¹ Eylert, 'Charakterzüge u.a.w. Friedrich Wilhelm's III.' vol. iii. pt. 2, pp. 200, 210.

² Ibid. vol. i. Preface, p. xiv.

³ Ibid. vol. iii. pt. 3, p. 320.

natural constitution, the king's religious views were very decided. The manner in which Humboldt exerted his influence upon his sovereign is also upon the whole correctly given; it consisted, in fact, of instruction conveyed at opportune moments, and he showed great tact in availing himself of the passing humour. In the hope of securing the king's interest in Lepsius' expedition to Egypt, Humboldt brought the scheme forward as one likely to elucidate the history of the Children of Israel;¹ upon another occasion he would urge the interests of Prussia, for upon these two points—the prosperity of the Church and the interest of the State—the king's thoughts were mainly directed. It has been already remarked that Frederick William III. possessed the praiseworthy habit of acquiring personal knowledge of the affairs of government only through official channels, and to this rule ecclesiastical affairs formed perhaps the only exception. This habit he preserved through life, and thus evinced how slight had been the effect produced by the improving and instructive intercourse with Humboldt. Of this Humboldt was aware, and never presented any written request to the king except in extreme cases. The ideas he may have been able to introduce in commenting upon the literature of the day or upon the various scientific subjects to which the king's love for country pursuits often led, were confined for the most part to matters of personal feeling. Humboldt's position, therefore, with Frederick William III. differed in reality little from that of chamberlain, only that the long habit of close intimacy and the high esteem inspired in the king by the superior mind of his gifted companion had raised this relationship to one of personal friendship, though without giving to Humboldt the power of influencing the actions of the king beyond what might be effected through the expression of opinion.

Should it be asked, in return, how much Humboldt gained by this unequal union—for of his intellectual superiority there could be no question—an answer may perhaps be found in the words of Bessel, whose loyalty is beyond suspicion, in a letter to Humboldt on June 11, 1840:—‘No one, not even any of the

¹ ‘*Briefe an Bunsen*,’ p. 34.

royal family, has stood so near our revered sovereign as your Excellency. If the king has ever felt drawn to anyone as a friend, it has been to yourself. We, who are all devoted to your Excellency, regard you as the chief mourner. I deeply deplore that a bond at once so rare and so beautiful should have been severed.' We repeat it. Humboldt on his own account must have desired the continuance of this connection, and its severance was at the time a source of pain. There is no reason to doubt the sincerity of his feelings when, upon June 24, 1840, he expressed to Gauss the grief into which he had been plunged by the death of a monarch who had long accorded to him his confidence, without at any time curtailing his independence of mind. The same feeling is still more evident in a letter to Casimir Gide, towards whom he had certainly no inducement to act the hypocrite: '—' You will no doubt have learned from the papers the cause of my sorrow and of my long silence. I should have been guilty of great ingratitude had I not been deeply affected by the loss of a sovereign endowed with many high moral qualities and distinguished as a monarch by honesty of purpose, who, while loading me with kindness, has ever accorded me complete independence of opinion, and has respected my attachment to friends with whose sentiments he could not but be at variance.' In these simple lines Humboldt has raised a memorial to his sovereign far more worthy of the friend he mourned and of his own heart than is to be found in the extravagant expressions, composed for effect, with which he concluded his speech delivered before the Academy of Sciences a few days before the death of Frederick William III., at the ceremony of laying the foundation stone of the monument of Frederick the Great:— 'The Academy, founded by Leibnitz, and consolidated by Frederick the Great, looks back to the period of its institution through the softening mists of distance, with emotion similar to that inspired by the nineteenth century, in which a beloved monarch is magnanimously engaged upon founding throughout his enlarged dominions institutions for the cultivation of

¹ De la Roquette, vol. ii., 'Avertissement des nouveaux éditeurs,' p. v. The date 'June 3' is manifestly false; it ought probably to be 'July.'

science, and affording every encouragement to the advancement of art. We feel it therefore to be a delightful duty, dictated by feeling and not by custom, to offer upon this day of public festivity the expression of our admiration and reverential gratitude towards these two illustrious benefactors.' The testimony of history leads to the suspicion, notwithstanding his assertion to the contrary, that Humboldt is here guided more by the dictates of custom than of feeling, while his comments upon 'the high moral qualities of the king, and his honesty of purpose as a sovereign,' are acknowledged to be just and felt to be sincere.

CHAPTER III.

FROM THE ACCESSION OF FREDERICK WILLIAM IV. TO THE REVOLUTION OF 1848.

Relationship in which Humboldt stood to Frederick William IV.—Personal Friendship—Opinions and Influence in Political Matters (Jews and Slavery)—Deliberations on Literary and Scientific Questions—Appointments and Claimants—Institution of the Order of Merit—Humboldt as Patron and Benefactor exemplified in the case of Eisenstein—The Publication of the first two volumes of 'Cosmos'—Humboldt as an Author.

'I HAVE recommenced work. I have taken up my quarters with the new king at Sanssouci, where we are to spend some portion of the summer. The new sovereign continues to show me the same marks of confidence and affection with which he honoured me as crown prince. We pass our evenings alone, immersed in philosophy and literature, upon the summit of the little hill distinguished by so many historical associations.' Thus wrote Humboldt a few weeks after the death of Frederick William III., in a letter to Casimir Gide, quoted at the close of the last chapter, in which he expresses himself with so much delicacy and sensibility on the late king.¹ About the same time² Bessel wrote to Humboldt:—'It is with great pleasure that I learn that the king accords to your Excellency the same flattering confidence that you received from his father. This is a matter so closely affecting the good of all, as to be well worth some amount of sacrifice on your part. I believe the king could not easily have done anything so likely to make him popular. The conjunction of ideas leading to this opinion is not difficult to find, it is indeed universal.'

¹ De la Roquette, vol. ii., 'Avertissement des nouveaux éditeurs,' p. vi.

² July 5, 1840.

In these words we read the eager expectation with which the new monarch in his character of the friend of Humboldt was greeted by men of the noblest stamp; this was one of the many phases in which the universal enthusiasm on the accession of the new sovereign took shape. He had already the reputation of possessing a highly gifted mind and great amiability. We have had occasion ere now to observe that Humboldt found in the society of the crown prince an agreeable contrast to the dry and unattractive character of his intercourse with his father. In presence of the susceptible temperament of the young prince, the gifted courtier could expand with fuller liberty, and was often excited to the expression of his thoughts by the intelligent interest of his royal listener. Owing to the many interests they had in common, their conversation had ranged over every branch of literature, science, and art. Political questions even had not been excluded; in securing the release of young 'demagogues,' the efforts of Humboldt had often been supported by the crown prince, and upon the subject of the behaviour of the King of Hanover, and the fate of the seven professors of Göttingen, he had expressed himself to Humboldt 'with much sound sense and nobility of feeling.'¹ The cordial character of their intercourse is apparent from the sprightly tone of some confidential notes written by the prince between the years 1836-40.² It will scarcely be inappropriate to compare the veneration inspired in this hopeful young prince by this distinguished man of genius with the sentiments excited by Voltaire in the mind of the youthful Frederick II. Upon his accession to the throne, was there not the prospect of this chapter of history being re-enacted?—must not Humboldt become, as it were, the new Voltaire of Sanssouci; and, owing to a greater tact and adroitness in personal intercourse, succeed in maintaining such a position? Everything, in fact, tended towards this result, and to its fulfilment there was nothing wanting on his part; unfortunately, there lacked to this Voltaire a second Frederick the Great.

When discussing the relationship in which Humboldt stood to Frederick William III., we made no attempt to portray in

¹ 'Briefe an Varnhagen,' Nos. 40, 76, 80, I.

² Ibid. No. 80, I.-III.

detail the character of this sovereign, for not only has it long since been written on the page of history, but from its very nature it prevented Humboldt, near as he stood to the king in external relationships, from ever approaching him in closer friendship than many other men of less distinction. To Frederick William IV., on the contrary, Humboldt felt bound by the much closer ties of mental sympathy; and when we call to mind that during the whole of this reign, from 1840 to the illness of the king, a year and a half before Humboldt's death, the two friends had lived in daily intercourse, that his life during this period *belonged*, as he expressed it,¹ *to another*, namely, to the king, we feel it incumbent upon us to give at least an outline of the character of Frederick William IV. Humboldt was in the habit of expressing himself unreservedly upon this subject in his confidential correspondence; but these expressions refer only to passing events, and require, therefore, some generalisation before they can be brought into consistency.

Frederick William IV. was—with the exception of Frederick the Great—the most gifted monarch that has ever occupied the throne of Prussia; but for the special art of governing he possessed so little capability that he seems to have been selected by fate to be the most unfortunate of his line. His comprehensive mind was open to impressions upon almost all subjects, and his apprehension was quick and correct: gifted with great power of language, he was accustomed to give expression to his ideas, whether borrowed or original, in a flow of natural eloquence that entitles him to be considered perhaps one of the greatest masters of style in the German language. Endowed with a highly susceptible temperament, he displayed, by turns, a keen sense of the ludicrous and a fire of noble enthusiasm, which rendered his society extremely agreeable to those he admitted to unreserved intercourse. But, notwithstanding these qualities, there was no stability either in thought or feeling; in the multiplicity of his views, sentiments, and resolves, there was lacking the comprehensive and controlling unity of a manly soul; they came upon him, as it were, uncalled

¹ In a letter to Carus, dated February 5, 1844.

for, and without order, so that his vacillation, always remarkable, was occasionally incomprehensible, and had more the appearance of the wavering of weakness than the aimless exercise of will. He was a born dilettante, not only in the arts, for which he had considerable taste, and in politics, for which he almost felt an aversion, but even in the affairs of social life; always full of schemes and impulses, always striving after something new, at first in a spirit of noble emulation, but soon becoming exhausted, dispirited, disenchanted, wearied, and embittered. Nothing was ever carried to completion; of his actions little is to be said, and that only of a negative character; steadiness of purpose he alone displayed in his opposition to all the requirements of his century. For it seemed as if fate had prescribed to him a class of duties which he was least capable of performing; he conceded that which was least required, and considered it to be his first duty to withhold that which was most earnestly coveted. For this his antecedents and early education were to blame, for upon his accession to the throne his character was as far complete as was possible to a nature like his.

The traditions connected with a religion prescribed by an ecclesiastical polity and a strictly monarchical form of government, among which he had been nurtured, had been early grafted into his mind, and, in accordance with his usual custom, been invested with a phantasy of his own—his taste for the romantic leading him to clothe them with a kind of fictitious beauty. Against the systematised theories of modern liberalism, which struggled with increasing impatience for practical realisation, he was imbued with deep hatred. The more keenly he was conscious of his vacillation and of his almost feminine susceptibility, which to a large extent was due to physical defects, the more did he feel bound to display force of character and strength of will. It so happened that in his views of the political wants of the age there lay some elements of truth that had been too hastily rejected by the levelling doctrines of the day. Hence arose the conflict of his life: the concession of a liberal constitution was the one great demand urged upon him by the majority of his subjects; but his opposition

to this wish increased until it assumed the attitude of defiance, and it was fostered and strengthened by the conviction of his own intellectual superiority. The stormy passions of revolution at length gained the victory over his proud spirit, and from that moment he broke down utterly, both intellectually and morally. His fate might have been viewed in the light of a tragedy, had he before the final catastrophe striven for his political ideal with more principle and with less selfishness and obstinacy, or else, when the storm had passed, had either bowed before it as one conquered, or returned to the honourable conflict with renewed strength. Instead of this, he made public concessions of that to which he was at heart opposed, secretly maintaining the determination of gradually retracting them one by one by underhand measures. Viewed in a moral aspect, his reign thus became divided into two distinct portions, widely separated the one from the other; prior to 1848, the noble impulses of his nature are often prominent, though in a listless manner carrying him hither and thither, with no fixity of purpose; after the Revolution the darker side of his character is brought to light, his vacillation assumes the form of dissimulation, his inconstancy appears like untrustworthiness, his kind and generous feelings are less and less brought into active operation, while there is a more frequent ebullition of uncontrolled passion. A nature like his can flourish only in the sunshine of prosperity; with the loss of enjoyment in his various projects and schemes, and of delight in his real or supposed originality, this great dilettante seemed also to lose the talent he once possessed; his wit became shallow, his eloquence shorn of its brilliancy, his intellectual pleasures contracted; it seemed only through habit that he continued to build palaces and chapels, and still prosecuted his ecclesiastical schemes, until at length he became shrouded in the night of affliction: only now and then was the veil of oblivion broken through by a transient gleam of intelligence, soon to be extinguished by returning unconsciousness.

In view of the change wrought in the king by the Revolution of 1848, this epoch has been selected as forming a natural division in the life of Humboldt, who continued in

close association with Frederick William IV. as long as the king was able to enjoy his society. The relationship maintained between the monarch and his distinguished subject exhibits itself in three phases—the mutual enjoyment of personal friendship; the endeavour on Humboldt's part to give a fixed direction to the political action of the king, partly from sympathetic friendship for his sovereign, partly from his independent conviction of the necessities of the State; and lastly, the mutual intercourse on subjects of peculiar interest to Humboldt, in which he displayed his usual diplomacy in furthering the cause of science and public education, and in countenancing all those who were labouring for their advancement. While endeavouring to portray this relationship, we shall confine ourselves to the facts of greatest importance; for the mass of material presented during the last twenty years of Humboldt's life by his voluminous correspondence and miscellaneous writings is so large, and the testimony contributed by contemporaries is so abundant and withal so monotonous, that it becomes necessary, if wearisome repetition is to be avoided, to make a comparatively modest selection from the resources at our command.

Dating from 1840, Humboldt's presence at court was an event of almost daily occurrence, the regularity of which was interrupted only by his occasional visits to Paris. By Frederick William IV. the presence of his distinguished chamberlain was not valued merely as contributing a lustre to his court, but as providing for him an intellectual necessity. In moments of enthusiasm he may have found Bunsen, Radowitz, and others possessed of a romantic and religious temperament, more sympathetic with the feeling of the hour—hence they have been sometimes called the royal favourites; but Humboldt, from the wide range of his genius, was at all times an agreeable and sympathetic companion, since his versatility and courtesy enabled him to adapt himself with ready tact to the humour of the king, whether in jest or earnest. To every question raised by the inquiring mind of Frederick William, he was enabled from the immense stores of his knowledge either to supply an adequate answer, or at once to indicate the source whence it could be obtained. It would, however, be erro-

neous to suppose that Frederick William made use of him merely as a tool, and regarded him only in that light; the king entertained for him a true and sincere affection, and gave him many proofs of his regard. That Humboldt should have accompanied his sovereign to the coronation at Königsberg in 1840, to the christening of the Prince of Wales in 1842, and to Copenhagen in 1845, may be attributed to his official attendance as chamberlain at a state ceremonial; but it betokened a feeling akin to friendship when he was selected as a companion in the country visits to Erdmannsdorf, or at the festive entertainments at Stolzenfels. The chief scene of their friendly intercourse was Potsdam. After a day spent in Humboldt's society, the king would often seek him out again, and late in the evening find his way to his room, in order that he might have him all to himself. It was often late at night when he took his leave, and Seifert, Humboldt's attendant, while lighting the king on his return, was frequently a witness, at the winding staircase, to which Humboldt invariably accompanied his royal visitor, to the eagerness with which the king would renew the conversation, as if he could never be satiated. When Humboldt was confined to bed by illness, the king read to him by the hour together. In the brief notes he frequently addressed to him, he styles him his 'esteemed friend,' or in joke 'most respected Alexander,' and concludes with expressions of the heartiest affection and goodwill. In Humboldt's increasing pecuniary difficulties, he was always ready with assistance, which he rendered in the most delicate manner. 'I could not have slept in peace for fear of being forestalled,' he wrote on March 27, 1857, when, to free his friend from debt, he gave orders for the payment of the large sum of 6,726 thalers to Mendelssohn. The refined delicacy of his consideration is apparent in the cabinet order dated Bellevue, January 12, 1850, in which, at the request of Humboldt, he grants his attendant Seifert an appointment as castellan at the hunting-seat of Sehorfheide, with a salary of 800 thalers. 'In thus fulfilling your wishes,' writes the king, 'of securing to your faithful attendant a life free from pecuniary anxiety, I have not thought it inconsistent with your request to insist that the appointment shall in no way interfere with his present duties, but that he

shall remain with you till the close of life; and in so saying, I cannot but express the hope that the day is far distant upon which he will be able to enter upon the active duties of his office.' In terms even more gracious the king writes from Sanssouci, to set Humboldt's mind at rest concerning the fate of a political prisoner, for whom he had interceded both verbally and by letter:—'My plot, my esteemed friend, has succeeded, and several hours before your valued letter reached me my orders had already been transmitted to Spandau. May your sleep be all the sweeter from the consciousness that you have accomplished one more humane and generous action. Frederick William.'¹ Touched by the letter, Humboldt has added the remark: 'Evidence of a truly noble heart!' Even during the gloomy days of the king's distressing illness, the first intelligence of which moved Humboldt to tears, Frederick William IV. still preserved an affectionate remembrance of his friend. The Queen, in writing to Humboldt from Florence on December 11, 1858, remarks:—'He often speaks of you with the old affection—in this love you may rest consoled—and would willingly help to remove the temporary embarrassment that seems to oppress you.'

The friendship of the king was fully reciprocated by Humboldt. He was possessed of too much tact and prudence ever to lose sight in his outward demeanour of the difference of rank by which they were separated. Even in advanced life he might be seen, before his house in Oranienburg-Strasse, conducting the king to his carriage with uncovered head and with the obeisance of profound reverence such as could only be expected from the most courtly of royal chamberlains. In the wish to gratify his royal master he was always anxious to be the bearer of some interesting fact or pleasing intelligence. Of this a characteristic instance is afforded in the history of Ranke's election as Knight of the Order of Merit. Somewhat biassed in his judgment by the influence of political feeling,

¹ This letter, as certified by an inscription in Humboldt's own hand, was 'given to Seifert on his urgent request.' It bears the date of July 18, but the year is wanting. Seifert states it to be connected with the history of Kinkel; but it can have no reference to his removal from prison, as that event took place in November 1850.

Humboldt had been exerting himself in favour of Raumer, against Ranke, and had only succeeded in securing Meyerbeer's vote in addition to his own, which caused him to complain bitterly to Dirichlet of the 'political unfaithfulness' of the rest. Upon discovering how much the king was set upon Ranke's election, he paid Ranke a visit on August 10, 1855, to offer him his congratulations, and communicated in a note to the king the news of his election and of the visit he had paid. The success of this proceeding is shown by the following note of thanks from Frederick William at Potsdam. 'Pray receive my heartiest thanks, my esteemed friend, for your valued letter of to-day. You were anxious to give me a pleasure, and in this you have succeeded. Your wish to be the bearer of glad tidings to Ranke has met, no doubt, with equal success. You have thus made yourself a happy day, which I hope may bring you a blessing. Till our next happy meeting, your sincere friend and admirer, Frederick William.'

The friendship entertained by Humboldt for his sovereign was in nothing more evident than in his efforts 'to foster in him all schemes likely to render him popular.'¹ No opportunity of this nature appeared to him insignificant. Thus in the spring of 1844 he persuaded the king to attend the performance of the 'Captivi' of Plautus, given by the students of the University of Berlin. 'I am wishful for the king to take an interest in everything whereby he may win general confidence and prove himself a friend to the rising generation,' writes Humboldt to Böckh, in reference to this subject. Nearly all his endeavours to exert any influence in politics arose from a feeling of personal regard to his sovereign. The complaints to which he gives utterance on the failure of his projects give the most distinct evidence of the personal sympathy by which he was actuated. Humboldt's criticisms on the character and deeds of Frederick William IV. are not to be attributed to a wish to censure, but rather to his warm sympathy and reverential regard. If his remarks became increasingly severe, it must be attributed to the growing sorrow he experienced at the intractable and obstinate disposition of the king, as well as to the justifiable

¹ 'Literarischer Nachlass von Fr. von Raumer,' vol. i. p. 20, No. 9.

discontent at the incessant interruptions to his own quiet leisure and opportunities for work occasioned by the exactions of the restless monarch. These remarks will furnish a key to the following confessions.

In a letter to Bunsen¹ of October 19, 1840, Humboldt writes :—‘The existence of so many heterogeneous elements has prevented the political aspect of the country under our most august and highly gifted sovereign from assuming as yet any settled character. Should peace continue, as I fully expect it will, the noble and liberal spirit of the monarch gives promise of a bright future. May our gracious sovereign but be led to the choice of suitable tools, and find a united ministry, who, while entering into his views, shall give direction to his noble purposes and be fully alive to the requirements of the day. A constitutional form of government in the present state of affairs might undoubtedly degenerate into a new adverse element, but the expression of opinion upon this subject must be very carefully weighed, as it is impossible even with the greatest suavity of speech and manner to exert a constant personal influence either of a calming or stimulating character. My health keeps up wonderfully : I take note of what goes on without appearing to be dissatisfied ; but I long for a well-selected ministry, who shall be worthy of our highly-gifted monarch.’ In a subsequent letter to Bunsen,² on December 14, he remarks :—‘May this noble prince soon enjoy the peace necessary to the accomplishment of decisive plans. To his susceptible nature the loss of popularity would be a terrible blow.’ Shortly after, on January 9, 1841, he writes to Frau von Wolzogen :—‘The delicate consideration with which I am treated by the king is continually on the increase ; I am almost daily in his society. You must not, however, draw wrong conclusions from this circumstance, and hold me responsible for the occurrence of things that may be displeasing to you or your friends. It is impossible to form a correct judgment of the state of affairs at a distance, and in writing one is sure to convey a false impression. I have the greatest confidence that by degrees all that is noble, generous, and liberal will be accomplished. The king is endowed with

¹ ‘Briefe Alexander von Humboldt's an Bunsen,’ No. 32.

² Ibid. No. 33.

a noble disposition, and intellectually is the most highly gifted man with whom I hold any intercourse. His friends have done him much injury with the public. In the "Staatszeitung" of to-day there is an article denying officially the report that has gone about concerning the edict upon religion and the enforced observance of Sunday, with which you will be much pleased. . . . I am quite distracted between my attendance on the king and the German propensity for scribbling. I am pestered with advice, remonstrances, and inquiries, to say nothing of solicitations for professorships, medals, and decorations—I often receive in a week from fifty to sixty letters and packets. The king has daily between 160 and 180 brought before his consideration. When we went to Königsberg, we carried away with us 5,000 unopened communications—the consequence of a change of sovereign and of this inconvenient system of centralisation. . . . Amid the various (apparent) distractions of my position I can only prosecute my literary pursuits at night, which I am fortunately able to do from the small amount of sleep I require—a peculiarity which, as you may remember, is a prescriptive right of the Humboldt family. I retire to rest at half-past two, and get up at seven, and in summer at six.'

His complaints henceforth become more frequent upon 'the distractions of his position and the concentration of his powers upon an unattainable object.'¹ In confidential conversation with Varnhagen,² he admitted, as early as April 1841, that the king, though actuated by excellent intentions and much nobility of feeling, was yet no man of action, and that what he did effect was done impulsively, without consistency and discretion. Whether from amiability or timidity, he often shrank from doing that which he most ardently desired and could most easily accomplish. Again, on December 3 of the same year, he concludes a letter to his friend with the sad exclamation:—'The evening of my life is most sad and oppressive.'³ Had he at this time, as Varnhagen maintains, any serious thought of retiring from court life, inasmuch as his name alone possessed any value with the king, and the influence of others carried greater weight, it could only have been in a momentary

¹ 'Briefe an Varnhagen,' No 52.

² Ibid. p. 88.

³ Ibid. p. 102.

ebullition of discontent. Small as he deemed his influence to be, he was never weary of using it, as duty impelled him, in the furtherance of every good cause, and to the advantage of the king. Bessel, the monarchist, as he was called by Humboldt, writes him on November 1, 1845:—‘It is widely reported here that your Excellency intends leaving Prussia; that you had declared *you must expatriate yourself*. I believe it to be one of the fabrications of the day. Even supposing your Excellency had encountered some disheartening opposition, I feel sure, from the profound esteem you entertain for our sovereign, that you would have deemed such treatment rather a reason for *non-expatriation*. Nevertheless, I beg of your Excellency most earnestly to set my mind at rest in regard to this matter.’ ‘Strange reports,’ remarks Humboldt on this occasion, ‘that have apparently arisen from my political sentiments being widely different from those of the Minister of Public Instruction.’

The adroit use made by Humboldt of the most trivial occasions to encourage the expression of great principles is very clearly exhibited in a letter addressed by him to the king at Charlottenburg on January 2, 1842, for some portions of which we are indebted to the circumstance that Humboldt quoted from it largely the same day to Johannes Schulze. The subject to which the extracts have reference was the bestowment of a mark of distinction on Felix Mendelssohn—a distinction which Humboldt was anxious should also be conferred on Meyerbeer, a Jew, in order that the king might be fully absolved in the eyes of the public from the suspicion of bigotry. The passage referred to contains the remarkable words:—‘A purely monarchical government from its very nature presupposes that the personal feeling of the monarch is in accordance with the feelings of the people. The temper, or rather, I should say, the affection of a people depends upon their confidence in the ability and exalted sentiments of their ruler. There are moments of crisis in public opinion. Your departure, and the approaching ceremony in the investiture of orders which, in its outward form (a public symposium), has become an important national institution, ought not to go by unused. Confidence is maintained so long as the feeling continues that

the monarch is raised above all petty considerations, and that he belongs to *the period* in which, by Divine Providence, he has been called to the throne. This confidence is still *yours*. I merely repeat what I said to you last night, but . . . It is therefore very important that Meyerbeer should not be passed over. Should the nomination of Felix Mendelssohn, the Christian, alone be made, a vital question will at once be raised. A reverential feeling for our departed sovereign, who is held in universal esteem, need not place any restriction on your conduct. Such an act might not have been ill thought of in him, for he belonged, as it were, to a former age; but *you* are a part of the present generation, and restriction cannot be placed upon the onward movement of national feeling. The germ of perpetual progress is by Divine law implanted within the human breast. The history of the world is but the record of a pre-ordained development. . . . In a time of need, Meyerbeer's mother made the noblest sacrifices for Christians. In concert with all other sovereigns, you have conferred decorations upon very unchristian Turks.' 'You see, my dear friend,' continues Humboldt to Johannes Schulze, 'that I have not been wanting in freedom of expression. . . . It is sad, however, to live in an age when to write thus is supposed to need courage.'

It is impossible to deny to this letter the merit of outspoken frankness; it is alike honourable to Humboldt and to Frederick William IV., that a communication so completely unreserved in tone should have taken place between them. Humboldt throughout his remonstrance manifests great skill in accommodating himself to the favourite ideas of his sovereign, even the historical allusions are veiled in a garb of religious sentiment, and the ceremony of installation, of which he had often spoken contemptuously, is for once viewed in a poetic light. In a similar spirit he interceded with the king on behalf of Massmann, Professor of Gymnastics, who had become an object of suspicion to the ministry. The letter, of which we have information only through Varnhagen's 'Remains,'¹ is dated March 29, 1846, and describes in glowing terms the

¹ 'Briefe an Varnhagen,' No. 110.

‘exhilarating power produced by such exercises upon youth—that primeval, *indestructible*, and ever-renewed institution of mankind;’ it concludes with the comprehensive words:—‘We do not live in sad, but in very earnest times. All action will be retarded, if suspicion be allowed to rob us of our best powers. Affectionately attached to your person, and enthusiastically devoted to the splendour of your government and the glory of my country, I feel deeply grieved when *your* noble intentions are in danger of being misunderstood. There are many estimable men who, from love to your Majesty, would gladly see me banished to the halls of Tegel, or expatriated once more beyond the Rhine.’ To console Humboldt as quickly as possible, the king wrote on the back of the letter:—‘Heartiest thanks, dearest Humboldt. Herr Bodelschwingh will recall Massmann. In great haste, yours faithfully as ever, Fr. W.’

These instances furnish proofs of Humboldt’s direct influence upon the king—a species of influence which Humboldt ever regarded as distinct from that unconscious power emanating like an ‘atmosphere.’¹ In matters purely political his influence was mainly of this description. In the spring of 1847, he confessed to Varnhagen that ‘upon the affairs of the Chambers,’ the most important question at that time agitating political life, the king had never spoken to him a word.² Nevertheless, he never allowed himself to grow weary in his self-sacrificing efforts to render the mind of his sovereign sensitive to the tone of public feeling. He took in the ‘*Journal des Débats*’ solely in the hope of kindling in the monarch a love for liberal sentiments through the elegant form in which they were there presented. Ranke remarked with admiration how the aged man, while standing under a lamp in the middle of the room, would patiently read out articles of a column’s length before the select circle at Potsdam. The direct influence that he exerted, therefore—apart from that exercised, directly or indirectly, upon scientific subjects—may be said never to have extended to any specific question in politics or rights of government; it was directed much more to the cultivation of grand, general principles, as, for instance, tolerance,

¹ Letter to Gauss of July 3, 1842.

² ‘*Briefe an Varnhagen*,’ p. 238; see also ‘*Briefe an Bunsen*,’ p. 84.

and freedom from prejudice, magnanimity and forbearance; in other words, practising to forgive and to forget. It was, in fact, the 'natural rights,' those general 'ideas of 1789,' which the aged contemporary of the First Revolution, with its theoretical ideas, was anxious to see brought into practice by the king, in whose highly gifted soul, he was convinced, they could not but awaken sympathy.

Foremost among these were two liberal questions which Humboldt sought with peculiar energy to see accomplished during the reign of Frederick William IV.—the emancipation of the Jews and the abolition of slavery. In the case of the latter he could only exert a restricted influence, owing to the subordinate position occupied by Prussia among the European Powers; the solution of the Jewish question, on the contrary, was one of the special difficulties presented at this period to the consideration of the Prussian monarchy. From Humboldt's letter of January 2, 1842, we have seen that the emancipation of the Jews was viewed by him as a 'vital' question; and as in the distribution of outward honours and distinctions he felt the necessity of complete religious equality, how much more would he feel it requisite in regard to all rights of citizenship! During the year 1842, many opportunities presented themselves of giving powerful expression to his views upon this subject. He expressed himself at court 'in terms of great severity'¹ upon the 'detestable enactment against the Jews,' with which the country was threatened, and which contained regulations of the narrowest bigotry: the law 'was at variance with every principle of political policy tending towards national union, it consisted of a presumptuous interpretation on the part of weak humanity of the inscrutable decrees of God'—the rough draft of the law commenced with the supposition that it would be a fulfilment of the Divine will to maintain the separation of the Jewish people—'the history of the dark ages shows to what extremes such interpretations may be carried.' Upon this subject he manifested equal tact in addressing the king in his own fantastical style. In a similar strain he wrote to the minister, Count Stolberg, that he was firmly convinced that the intended innovations would be in the highest degree irritating, as liable

¹ 'Briefe an Varnhagen,' No. 63.

to arouse suspicion of the worst motives, and would be destructive of rights which had been already conceded through the humane enactments of the late king, besides being in direct opposition to the mild government of the present monarch. 'Let no fear of injuring me,' the letter concludes, 'prevent you from making use of this communication; one must above all things have the courage to express one's opinion.' He himself assisted in disseminating copies of this 'somewhat lame defence of that sadly oppressed race,' in the hope that it might assist the cause by arousing public indignation.¹ The measure did not at that time become law; but the proposition that was laid before the General Diet in 1847 was drawn up in a spirit scarcely more liberal. Humboldt was grieved to perceive from the turn of affairs how far below the intellectual enlightenment of the nation stood the narrow-minded policy of the ministry—and, had he dared to say so, even the views of the king.² On this point, therefore, he was correct, when on March 18, 1843, he complained to Varnhagen that the king had relinquished none of his projects, and might at any moment again endeavour to carry the measures relating to the Jews, the observance of the Sunday, the consecration of an English bishop, the creation of new peers, &c.³ Less reluctance, however, was shown by Frederick William to confirm the election of Reiss, the Jewish physicist, to the Academy in June, 1842—an election in which Humboldt had zealously exerted his influence both with the Academy and with the king.⁴ That Humboldt accorded his friendship without the slightest hesitation to various men of distinction of the Jewish persuasion or of Jewish extraction, will from his well-known spirit of liberality and freedom from prejudice be received as a matter of course. As long as these sentiments stood in opposition to the law of the land and the customs of society, he did not hesitate on suitable occasions to assert them with warmth and earnestness. In his youth, as we have seen, he had been thrown into the attractive

¹ See Adolph Kohut's 'Alexander von Humboldt und das Judenthum' (Leipzig, 1871), pp. 59–60; and Varnhagen's 'Tagebücher,' vol. ii. p. 59.

² 'Briefe an Bunsen,' p. 97.

³ 'Briefe an Varnhagen,' p. 124.

⁴ Ibid. pp. 119, 122.

society of Jewish men and women of distinction, for at that period—the close of the eighteenth century—the most agreeable and intellectual society of Berlin was to be found among the enlightened circles of the reformed Jews. It must not be supposed, however, that Humboldt felt any special attraction towards the Jews as such, or towards the Jewish religion, although he once gave to the latter the negative commendation that it was of all religions that which was most easily reconcilable with the discoveries of science.¹

In connection with this subject, we shall no doubt be excused if we entrench so far upon a later portion of this biography as to allude here to the influence Humboldt exerted upon the laws of his country on the question of slavery; for the sentiments by which he was actuated in the accomplishment of this political step had been cherished in early youth, and were preserved by him throughout life. In Humboldt the noble ideas that animated the eighteenth century, and were embodied in the benevolent schemes of Jefferson, were maintained and promulgated far into a generation which had long ceased to be influenced by the noble sentiments of the founders of the union. Upon the dishonourable institution of slavery he never hesitated to give expression to his views, and to address himself in a tone of remonstrance to the United States, with the Government of which he had formerly felt so warm a sympathy. The following severe passage occurs in the '*Essai politique sur l'Ile de Cuba*,' published in Paris in 1826:—'I have examined with candour all that relates to the social organisation of the colonies, the unequal distribution of rights and social privileges, together with the dangers that now threaten political life, which, whatever may be the form of government, may be averted by wise legislation and the moderate counsels of liberal-minded men. It is for the traveller who has been an eye-witness of the evils by which human nature is degraded, to convey the cries of the unfortunate to those whose duty it is to relieve them.

¹ Kohut's '*Alexander von Humboldt und das Judenthum*,' p. 176. A severe critique of this disgraceful book, compiled with the intention of proving 'Humboldt's excessive love for Judaism,' is to be found in the article, '*Humboldt als Judengenoss*,' published by the author, A. Dove, in the periodical '*Im neuen Reich*,' 1871, vol. i. p. 377.

I have brought to notice in this essay how much less inhuman and atrocious were the old Spanish laws on slavery than the legislation now in practice in the slave states of North America.' Since that time Humboldt never ceased to exert himself in the prosecution of this idea. Even in 'Cosmos' it found expression.¹ In the portfolios filled with the material collected for his various works was a packet inscribed 'Slavery,' which contained, besides various pamphlets on the question of abolition, a number of historical and statistical notes in his own handwriting, as for instance:—'As early as 1769, long before the Congress of Vienna, the words "the unnatural and unwarrantable custom of enslaving mankind" were employed in the House of Representatives of Massachusetts.' Attached to these papers are various notes and fragmentary extracts upon the judicial inquiries, in which illiberal sentiments, wherever expressed, are denounced by comments in his own hand, such as 'All the world is mad!' and similar expressions. So completely did he regard himself as the representative of this idea, that it was with almost jealous astonishment he noticed the unparalleled effect produced by Mrs. Beecher-Stowe's 'Uncle Tom's Cabin.' 'What can she have to say new upon that subject?' he inquired of Dove.² In the year 1856 an opportunity occurred of showing himself a valiant champion in the cause of freedom.

Thrasher, an American writer, had, towards the close of 1855, translated for a New York publisher the 'Essai politique'—a translation he had made not from the original, strange to say, but from an old Spanish version, and while enriching the work by new statistical data, he had suppressed the whole of the seventh chapter, which was upon the subject of slavery. Humboldt's displeasure was greatly excited: he forthwith published a remonstrance on the subject, in July 1856, in the 'Spener'sche Zeitung,' which from the friendly relationship in which he stood to the editor, Spiker, was to him almost a second 'Moniteur,' and vehemently complained of the mutila-

¹ 'Kosmos,' vol. i. p. 385; vol. ii. p. 24. See also 'Briefe an Varnhagen,' No. 173, and 'Briefe an Bunsen,' p. 98.

² See 'Briefe an Bunsen,' pp. 104, 106.

tion of his work. He set much greater value on the suppressed portion of his essay than on the laborious astronomical observations for the determination of geographical positions, the experiments on the strength of magnetic currents, or on the statistical data; he thought himself entitled to demand that the sentiments which had been allowed to appear in the Spanish edition from the first moment of publication should at least have free circulation in the United States of America. In private letters he scrupled not to designate Thrasher's conduct as disgraceful, and saw in the transaction only another proof of the desire of the Americans to possess Cuba. The important aspect the affair subsequently assumed was due to the circumstance that Humboldt's expostulation, which naturally went the round of the American papers, appeared at a time of unusual excitement, when the election of a president was going forward. Fremont, the representative of the Abolitionists, and Buchanan, the supporter of slavery, were the opposing candidates; and this election proved one of the most decisive in its bearing upon the slave question and the history of the Union. The republican party felt encouraged by Humboldt's support,¹ and Fremont, in writing to him on August 16, expressed his appreciation of his sympathy in these words:—'In the history of your life and opinions we find abundant reasons for believing that in the struggle in which the friends to liberal progress in this country find themselves engaged, we shall have with us the strength of your name.' In order to bring before the notice of the Americans the example of their great statesman, Humboldt requested Tocqueville to search for a letter of Jefferson's against slavery, which he had given to Madame de Staël. Even in September, when already despairing of the victory of Fremont,² Humboldt received a communication from Massachusetts requesting permission to publish the opinion he had some time previously given expression to verbally on the subject of the Ostend conference, the resolutions of which he had designated as 'the most outrageous political document ever published.' Even Humboldt's recognition of the value of Fremont's scien-

¹ Herr von Gerolt to Humboldt in the 'Briefe an Varnhagen,' p. 316.

² 'Briefe an Varnhagen,' p. 315.

tific labours was expected to have great influence with many voters. Notwithstanding every effort, Buchanan was eventually successful, but the result of the election only led Humboldt to hold still more tenaciously to the ideas he had seen with sorrow and indignation¹ once more subverted. The incident, in the meantime, of the Ritter slave trials turned his attention to the state of the law in Prussia on this question, and led him to exert all his influence towards effecting an alteration in the common law of his country. On December 29, he wrote to Böckh:—‘I have accomplished the project which I have so long sought to bring about, namely, the negro law: every slave will now become free upon touching Prussian soil, with the exception of Neuenburg and the distant colony of Neu-Barnim, in Morocco.’ The exceptions thus playfully introduced bear reference ironically to the events of the day, the renunciation of Neufchâtel, which was then in process of accomplishment, and the skirmish of Prince Adalbert of Prussia with the reef pirates²—Humboldt’s habit being to introduce passing events of a piquant character into serious subjects. ‘The law that has to-day come into force,’ wrote Simons, the Minister of Justice, on March 24, 1857, while sending Humboldt an official copy of the same, ‘is indebted for its existence to the humane views of your Excellency.’

In January, 1858, Humboldt once more lifted up his voice against slavery in a letter to Julius Fröbel, the publication of which he readily permitted, to show that he was not unwilling to avow publicly his connection with a man proscribed on account of revolutionary proceedings. ‘Do not cease to stigmatise,’ he wrote to him, ‘the scandalous vindication of slavery, and the deceitful practice of importing negroes, under pretence of making them free, which is only a means for encouraging the nefarious trade of negro hunters in the interior of Africa. What abominations one lives to witness when one has the misfortune to live from 1769 to 1858!’ He little suspected how near America was to the expiation of her crimes. Long before, in 1825, he had himself given expression to the opinion that

¹ ‘Briefe an Varnhagen,’ p. 332.

² Ibid. No. 170.

‘in the event of the question of slavery becoming a subject of contention in America, the political constitution of the States would be in great danger;’ he had wished ‘not to survive to witness this occurrence,’¹ evidently because he was loth to behold, with the suppression of slavery, the ruin of a country which, with the exception of this one blot, most nearly approached his political ideal. How greatly would it have cheered the evening of his life, could he have been permitted to see, almost simultaneously with the abolition of serfdom in Russia, the disgrace of slavery washed away by the United States of America in the blood of her citizens without entailing the ruin of the country. But this was Humboldt’s fate, as he expressed himself once to Fröbel, ‘to live, unfortunately, to his eighty-ninth year’—and, unfortunately, to die in his ninetieth year—‘because, of all for which from his youth up he had zealously striven, he had witnessed so little actually accomplished.’ Little as he had been cheered by success in his noble aspirations for the world’s progress, he was equally doomed to disappointment in the hopes he had cherished for his own country, whether viewed as Prussia or Germany.

It was but too soon manifest to Humboldt, to his bitter sorrow, that Frederick William IV. was not the man to aid in the fulfilment of such hopes. We have followed his criticisms upon the king’s character up to the beginning of the year 1842; those referring to the succeeding years evince no less sympathy with his royal friend, but reveal gradually increasing distrust in any hopes for the future. ‘The king,’ he remarks in a letter to Bunsen² of January 7, 1842, ‘is nobler in character, and intellectually superior to all around him. Oh that he could only find tools to work with, and leisure amid the constant pressure of the small daily duties with which he is burdened! . . . Towards me, against whom, as well as yourself, the aristocratic party are extremely enraged, he is remarkably gracious. I am looked upon by that party as an old tricolour flag, kept in reserve to be displayed whenever a suitable occasion shall arise.’ The journey to England on which he started the ensuing week,

¹ ‘Briefwechsel mit Berghaus,’ vol. i. p. 10.

² ‘Briefe an Bunsen,’ No. 35.

when accompanying his sovereign officially to the christening of the Prince of Wales, was viewed by Humboldt, from its brevity—scarcely a fortnight—as a burdensome undertaking; during this ‘bustling visit,’ he was unable either to visit the Royal Observatory or see his publisher, and, in view of his attendance on the king, inquired what in so short a time could possibly be either seen or *learnt*! ¹ ‘I live,’ he writes subsequently to Varnhagen,² on March 16, ‘in the midst of the glitter of outward splendour and in the enjoyment of the romantic affection of a noble prince, yet in a moral and intellectual isolation necessarily enforced by the stunted intellects of this divided, erudite, and morose country—a true desert, where minds nominally sympathetic are really in opposition—a country gradually assuming the dreary aspect of an eastern steppe. I trust you will approve of one who has the courage to be singular in his opinions.’ The somewhat petulant tone of this complaint, characteristic of the irritability of old age, proves that Humboldt, in his discontent with the course of action of the Home Government, had not even the consolation of mingling with those kindred spirits who represented the feeling of opposition which was gradually gaining strength throughout the country, especially in the capital. Berlin had become more distasteful to him than ever, ‘a moral desert of sand ornamented with acacia shrubs and flourishing potatoe-fields,’ he terms it in writing to Jacobi, on November 21, 1840, remarking that Berlin, ‘with all its breadth and monotonous small-talk, is retrograding as fast as other countries are advancing in enlargement of views.’ He regrets particularly that public opinion should have been excited against the king, more for what he might do³ than for anything he had done, for which the unstable character of the monarch, ever bent on new schemes, was mostly to blame. Humboldt, who was ‘again living in daily intimate companionship’ with his sovereign, was ever disposed to attribute his faults to the influence of those by whom he was surrounded, who

¹ ‘Briefe an Bunsen,’ No. 35. Letter to Gauss of July 3, 1842. ‘Briefe an Varnhagen,’ p. 106. See Varnhagen’s ‘Tagebücher,’ vol. ii. pp. 22, 23. De la Roquette, vol. ii. p. 232.

² ‘Briefe an Varnhagen,’ No. 63.

³ ‘Briefe an Bunsen,’ Nos. 35, 36, and 38.

ceased not to weary him with details concerning personal feuds and matters of private interest. There are small minds, who, unmindful of the requirements of the age, retrograde like the epicycles of Ptolemy, and endeavour to dispirit every attempt at improvement. 'It has come at last to this,' he sorrowfully exclaims, 'that from Memel to Saarbrück the impression prevails that there is less enlightenment in the Government than among the people.'¹ He feared that 'the clergy would end by forcing the king to stifle his naturally vivacious temperament.'²

After the spring of 1844, Humboldt began to see more clearly that the seat of the mischief lay really in this vivacious temperament, meddling with dangerous topics, and henceforth he terms it with greater severity 'childish frolic.'³ Upon such a nature it was in vain to attempt to exercise the influence he was ever expected to exert; even favourites like Bunsen and Radowitz could do no more than cherish and submissively carry out the foolish fancies of the king; beyond this they were powerless to accomplish anything. 'The king will do exactly as he likes, and will only carry out his preconceived notions; the advice, to which, however, he always willingly listens, has never the smallest weight with him.' Humboldt expressed himself derisively upon the vast schemes of his sovereign, which were planned as if he expected to live a hundred years; and as a true conception gradually gained upon him of the diletante spirit of Frederick William, he was constrained to remark:—'Art and imagination upon the throne, fanatic jugglery everywhere around, and hypocritical deception in every act! And yet withal a king highly intellectual, exceedingly amiable, and inspired with the best intentions! What will come of all this?' These expressions, for the validity of which we have the testimony of Varnhagen, have found full justification in the records of history; the character of the king is sketched with no less power, though in softer colours, in the beautiful letter to Carus of February 5, 1844, wherein Humboldt playfully reproaches the enthusiastic phrenologist for

¹ 'Briefe an Bunsen,' No. 30.

² 'Briefe an Varnhagen,' p. 132.

³ Ibid. p. 124.

having, upon a rumour of his death, 'immediately bespoken, without one word of becoming regret, a cast of his skull from Rauch.'¹ 'What intercourse,' he remarks, 'can be had with the outer world of Germany, Italy, England, and France, by a monarch who, while enthusiastic in his love of science and art, and easily impressionable, is subject to the strangest contradiction of inclination, and the inextricable entanglement of opposing desires, who, while possessed of the purest and noblest principles, is unfortunately surrounded by those who hinder him from seeing himself as he really is! The correspondence arising from such a state of things is of a kind in which extraneous help is impossible.'

The duties incumbent upon Humboldt in his position were felt, under the weight of years, increasingly irksome. Complaints henceforth escape him more frequently of 'the overwhelming amount of work occasioned by his intimacy with the king,' and 'of the distressing interruptions to which he was subject.' The reading aloud, in which he was often relieved by Tieck and others, was less onerous than the incessant occupation occasioned by the king's private correspondence, which Frederick William was in the habit of committing to him overnight to prepare for the following morning, while even the letters to potentates were presented to him 'for careful revision and lenient criticism.' The greatest annoyance to Humboldt was the incessant questioning of the king, to which he was compelled to be almost a daily victim, as Frederick William looked for his presence every evening at eight o'clock, and complained bitterly if, through accepting an invitation elsewhere, he was absent from the mid-day meal, which the king, at Sanssouci, usually took alone. In replying to this volley of questions, he was often obliged to request the assistance of his friends. Thus, from Encke he had to seek the reason of the peculiarity of the transverse numbers formed by products of the number nine; from Dove the cause of abnormal meteorological phenomena; from Böckh the meaning and etymology of 'parricida,' or 'madeira;' while from Curtius he would seek information upon various classical subjects, as, for instance, concerning the population of ancient Rome and Athens, the value of the gold

¹ See Varnhagen, 'Tagebücher,' vol. ii. p. 260.

talent, the nature of the crystal spheres of the ancients, the origin of the torch dances, caryatides, &c. 'Besides Cracow and the tolerance edict, as it is termed, one is plagued by erudite kings,' he despondingly remarks to Böckh. . . . 'In Leibnitz's time the talk at court was all about nomadology, now it is hellenism. . . . The conversation of an evening here always terminates in erudite inquiries; pray excuse the stupidity of my questions!' The unsuitability of such tastes in a prince did not escape him; he could not fail to be astonished that the king should know by heart every German translation of 'Antigone,' but he was equally amazed at his indifference to the proceedings of the Diet of the Rhine. The usual evening conversations were, moreover, dry and restricted: the king drew; with the exception of Humboldt, no one ventured to speak, and even he 'confined himself to the mention of facts, without venturing on the expression of thoughts.'¹ It distressed him to see scientific results, which he honoured as such, used merely as topics of conversation, in exchange for intellectual food of a far poorer quality. 'The king asked me,' he writes to Encke, 'to read to him your treatise upon comets, which he thinks ought to be something remarkable. Unfortunately, I had not the book with me at Potsdam, so we read some love stories out of an almanack.' As years rolled on, the conversation at court became increasingly vapid and insipid. In November, 1855, Humboldt, in course of conversation, relates to Varnhagen that Louis Schneider, the actor, had been assisting him in entertaining the king of an evening, and that the wife of General von Luck had on one occasion taken his place and read some anecdotes out of Meidinger's grammar, with which the king was greatly amused, and laughed heartily. 'When I read to him,' he adds, 'he goes to sleep.'²

Why Humboldt should not have sought in some way to withdraw from the court, where the fulfilment of his duties proved so intolerably irksome, is a question so self-evident that we are not surprised to find that he once propounded it to his friends. 'The life I am leading here is wearisome,

¹ Varnhagen, 'Tagebücher,' vol. ii. p. 227.

² Ibid. vol. xii., under date of November 10, 1855.

distracting, and arduous,' he writes to Gauss, on April 7, 1846. 'I can scarcely secure more than the hours intended for repose for the prosecution of my literary pursuits. You will naturally inquire why, at the age of seventy-six, I do not seek another position? The problem of human life is rather a complex one. Good nature, the force of habit, and foolish hopes, often prove a hindrance.' Two years previously it had been justly remarked by Varnhagen:—'Humboldt is oppressed by his multifarious occupations, but he would be sorry to be without them; society and the court have become to him like a familiar tavern, where men are accustomed to spend their evenings and enjoy their pipe.' The atmosphere of a court life had indeed become to him so much a daily necessity, that he took it amiss when occasionally he was not included in some court festivity, though keenly alive to the vanity and unsatisfactory nature of such assemblies. The elasticity of his mind in no way suffered from the pressure of business and mental effort to which he was subjected. Boussingault once offered an ingenious explanation of this wonderful faculty in Humboldt: 'You manage to think and write,' he remarks, 'where no one else could put two ideas together. Travelling in America seems to teach how to prosecute science under every possible circumstance. After being able to write amid the deafening noise of the New World, and in disregard of the attacks of *zanudos* and *mosquitos*, I can conceive it possible to write also amid the confusion of a court, and a crowd of courtiers.' These social grievances must rather be regarded as means of excitement, the enjoyment of which, slight as was the value he set upon them, had become to him a necessity; with all the greater zeal could he throw himself into the serious work of the night after a day spent among court festivities, in chit-chat and compliments. For the loss of physical sleep, which latterly was restricted to a very few hours, he no doubt found some compensation in the intellectual sleep of his daily life.

It was with a just sense of the true nature of his position that among the motives that urged a continuance of court life he had included along with good nature and custom the indulgence of his 'foolish hopes.' It does honour to the feelings of his heart that he never renounced these hopes, even though his un-

derstanding pronounced them to be futile. His political friends at one time cherished the hope, when his credit and influence with the king appeared to be on the decline, that he would summon resolution to retire for a time—even only for a week or two—as an act of defiance.¹ It was thought that by this means he would secure a triumph, since it was feared that the zealous enterprises he was then engaged upon would only injure him and hasten his fall. But from his yielding and pliant nature he was as little capable of ‘defiance’ as he was of desiring such a triumph. As his friends must have been well aware, he was a sincere friend to the king, and less eager in his own interests than in those of his sovereign.² Bettina von Arnim, who endeavoured in vain by a fearless attack upon the king to induce his reception of enlightened views, in which she frequently called in the assistance of Humboldt, thereby ‘laying upon him heavier burdens than he could bear,’³ awards him the praise of being ‘the only man at court who was actuated by motives other than those of personal interest, who warmly cherished every right feeling, and whose conduct was invariably noble and upright.’⁴ On this very account he preferred to remain in a position fraught with so much personal inconvenience rather than free himself from it by any effort of his own. He was disposed to think his presence at court was of some value ‘if only he was instrumental in effecting any slight deed of benevolence, although in the more important affairs of general interest everything might go against his wishes;’⁵ and was thankful ‘when he could make use at least of the intellectual interests still cherished by the king.’⁶ Moreover, up to the eve of the Revolution he still ‘reckoned securely upon his noble temperament in the steps demanded by progress.’⁷ That such an amount of confidence was possible can only be explained by the peculiar character of Frederick William. Might he not, from the uncertainty of his disposition, suddenly take the direction in which the stream of popular feeling had long pressed him in vain? In one so remarkable for instability

¹ Varnhagen, ‘Tagebücher,’ vol. ii. p. 248; also pp. 247, 250, 267, 274.

² Ibid. vol. i. p. 251. ³ Ibid. vol. iii. p. 477. ⁴ Ibid. vol. ii. p. 73.

⁵ Letter to Schumacher of July 3, 1844.

⁶ ‘Briefe an Bunsen,’ p. 88.

⁷ Ibid. p. 101.

was constancy only to be looked for in adherence to favourite ideas? It had long been painfully evident to Humboldt that no outward influence would ever effect a change. On taking leave once of Friedrich von Raumer before starting for Paris, he replied to the inquiry how it was he did not prefer remaining at home at so important a crisis, to exert his liberal influence upon the king: 'How can you believe that it is possible to produce any effect upon an eccentric humorist?'¹ But this very eccentricity of temperament rendered it possible that, as in a game of chance, an opposite course of action might suddenly be manifested, and such a change was all the more probable from the nobility of the king's natural character, in which Humboldt could never for an instant lose faith. The perpetual alternations between hopes constantly revived and hopes a thousand times deceived afford the true explanation of the numerous contradictory expressions employed by Humboldt in reference to the king during the years between 1844 and 1848. We need not transcribe them individually; they are sufficiently indicated in the following lines from 'Hermann und Dorothea,' which were in those days a favourite quotation with him:— 'For the man who in times of uncertainty shows himself irresolute, does but increase the evil and spread it farther and farther.'²

In animadverting upon his sovereign he always showed himself eager to screen the king, as much as possible, and to throw the blame upon the ministers of the crown. He was much grieved, therefore, by the speech delivered by Frederick William at Königsberg at the close of August, 1844, in which he appealed to 'the pure loyalty which taught that a prince could not be served by casting aspersions upon his most confidential servants.' These words appeared to Humboldt an unnecessary display of magnanimity which would scarcely meet with general appreciation;³ he himself could not be brought to believe that

¹ Thus given in Varnhagen's 'Tagebücher,' vol. v. p. 246.

² 'Denn der Mensch, der zur schwankenden Zeit auch schwankend gesinnt ist,

Der vermehret das Uebel und breitet es weiter und weiter.'

³ 'Briefe an Varnhagen,' No. 91. Also Varnhagen's 'Tagebücher,' vol. ii. p. 300, &c.

‘ confidential servants were to be treated with honour when they merited only to be classed as birds of prey.’¹ The king’s powers of eloquence were regarded by him as somewhat dangerous gifts. There was, he admitted, something noble in the wish of the king to address himself personally to his people, and communicate with them publicly, but his speeches could produce but one effect—an increase of excitement. He formed no unjust estimate of the rhetorical gifts of the king when he described his eloquence as full of poetic images which, if somewhat hackneyed, were given with a sweetness of expression, and a delicate appreciation of rhythm suggesting, as in the case of all compositions where imagination is more prominent than thought, a ready adaptation to music. The unfortunate position of the king he has thus graphically described:—‘ One cannot escape a feeling of sadness at the sight of a prince so highly gifted and imbued with the best intentions, stimulated by the freshness of his mind towards new subjects of investigation, rendered in all matters relating to politics the victim of deception. As Parry, in his Polar expedition, while urging *northward* along the ice his sleighs and Samoyede dogs, found, when the sun, bursting through the fog, revealed his position, that he had been unconsciously travelling several degrees to the *southward*, since he had been journeying on a mass of floating ice borne by the ocean currents to the south—so with the king; the ministers form the moving bank of ice, and the ocean current—may it not be found in the proselyting spirit of dogmatic theology?’

The ministry was, in fact, being gradually drawn into the ever-widening stream of pietism, rapidly spreading from the court to official life. Humboldt keenly satirised the hours for prayer and the evening reunions at Herr von Thile’s, where the invitations were issued for ‘ cards and prayer.’² But the satire soon gave place to serious anger: if we may trust Varnhagen, Humboldt boldly remarked to Eichhorn, the minister, in the presence of others: ‘ We are far worse off under your rule than under Wollner.’³ The course of conduct pursued by Eichhorn

¹ Letter to Böckh of the same date.

² Varnhagen’s ‘ Tagebücher,’ vol. ii. p. 255; vol. iii. p. 286.

³ Ibid. vol. ii. pp. 383, 400.

brought to his mind an expression made use of by William von Humboldt, that liberal ministers were as difficult to find as liberal princes.¹ In 'a state of extreme indignation at the condition of State affairs,' he once sent Varnhagen an 'appropriate' quotation, describing 'the wrath of God against man's abuse of power,' and representing the regret the Almighty might be supposed to feel at having given to the world the form of monarchical government; but it was doubtless with feelings of sincere grief that he alluded to the 'atrocious' outrage,² concerning which he subjoined the frank confession: 'Strange that it should so rarely happen that anyone attempts to shoot the minister, or the cabinet council!'³ The inefficiency of the ministry caused Humboldt to feel keenly the retirement from office, on account of serious illness, in the autumn of 1845, of Baron Bülow, who had been for some years Minister of Foreign Affairs, and was related to him by marriage with his niece, the daughter of William von Humboldt. He was regarded by Humboldt as 'one of the most liberal-minded and distinguished statesmen of the day,' and was the only member of the council with whom he had been able fully to sympathise. In this 'melancholy event' he had but the negative consolation of feeling 'that the powerful current of politics in North Germany was much too strong to be stemmed by any one individual.'⁴

To a character like Frederick William IV., the personages surrounding him, who had power to elicit his confidence either from sympathy of feeling or similarity of thought, were almost of more importance than the members of the ministry. But even to these associates of his royal master Humboldt was unable to extend his cordial approval. Bunsen, Radowitz, and Kanitz appeared to him in the light of three physicians, by whom the king regularly submitted to be treated year after year; but he failed to perceive that by their means any cure was effected.⁵ With Bunsen he was constrained to sympathise

¹ Letter to Böckh.

² [The life of the king was attempted by Tesch on July 6, 1844.]

³ 'Briefe an Varnhagen,' Nos. 100, 101, 120.

⁴ Ibid. No. 97.

⁵ Varnhagen's 'Tagebücher,' vol. iii. p. 269.

on the great question of a constitutional government, and in the endeavour to excite liberal views in the king; but though far from being insensible to the suavity of his disposition, he had no comprehension for the distinctive feature of his character, a gentle and, at the same time, enthusiastic piety. It was not merely towards Varnhagen, who was, no doubt, somewhat envious of Bunsen, that he indulged in satire against this display of religious sentiment; no one familiar with Humboldt's epistolary style could fail to perceive that there was a marked want of confidence in his communications to Bunsen.¹ As for the pitiful middle course adopted by the cringing creatures of the court, Humboldt knew well, when occasion served, how to express his contempt in a bitter sarcasm, beneath which they were silenced 'as by a death-blow.'² This naturally caused them to hate him the more, and incited them to injure him in secret to the utmost of their power. As a result of this, and as a necessary reaction of the failure of the extravagant hopes formed of Humboldt's influence upon the king in leading to a liberal policy, the 'disgrace' under which Humboldt was supposed to have fallen was for a long time, as it had formerly been under Frederick William III., the constantly recurring 'theme' of political gossip;³ it was represented that he was exceedingly obnoxious to the king, a continual torment, and a perpetual reproach; that the king was anxious to dismiss him, but could not afford to do so, as he had become necessary to him, and the lustre of his presence could ill be spared: till death cancel the obligation, Humboldt therefore must continue a recipient of royal favour, and his presence at court be endured. Nothing of this, so far as Frederick William IV. is concerned, bears the impress of historic truth; a direct appeal to the noble generosity of the king, as evinced in the beautiful letter respecting Massmann, sufficed to render impotent the machinations of his political enemies. Humboldt, moreover, was possessed of too much tact and prudence to exercise his influence in a manner to make him a torment to his sovereign;

¹ This affords some modification of the 'Postscript' to the 'Briefe von Alexander von Humboldt an Bunsen,' pp. 211, 212.

² 'Briefe an Varnhagen,' p. 170.

³ Varnhagen's 'Tagebücher,' vol. ii. pp. 247-50, 207, 274.

while the king, on the other hand, was too sanguine and self-satisfied to notice or lay to heart the silent reproof conveyed in the mere presence of his liberal and enlightened friend. Nor was there any diminution in the favour openly manifested to Humboldt by his sovereign. Besides the pecuniary assistance given in private, and the marked consideration evinced in acknowledgment of the dedication of 'Cosmos,' he bestowed upon his chamberlain, at an investiture of the order in 1844, the decoration of the Star of the Red Eagle, in brilliants, to which he added, in 1847, before the general installation, the further distinction of the Order of the Black Eagle, the highest honour that was in the royal power to confer.¹ The congratulations addressed to him upon this occasion by Metternich contain a graceful allusion to the motto of the order as peculiarly appropriate to the character of the recipient:—'The eagle, under the shadow of whose wings—*sub umbra alarum*—you have accomplished so much, will prove a suitable adornment to your person. *Suum cuique!*'² The institution of the Order of Merit will form the subject of a future page.

In this manner the years wore away; the soft evening light that shone upon the high position of Humboldt deepened in intensity, though the beams were shorn of their heat. The irksome stagnation into which everything had fallen towards the close of the former reign had given place to a reaction of tempestuous agitation, in which unhappily there was no trace of law or purpose; whither the contending forces might carry the government and the sovereign it was impossible to foresee, but no one interested in the welfare of either could look into the future without anxiety. There is perhaps nothing more painful than to witness the approaching ruin of those around us, and, while conscious of the power to save, to see all help despised. Precisely in this position was Humboldt now placed; he beheld the king enclosed, as it were, in a magic circle, which no spell could break,³ by a band of sycophants cemented as by the bonds of freemasonry; none

¹ Varnhagen's 'Tagebücher,' vol. ii. p. 251; vol. iv. p. 6.

² 'Briefe an Varnhagen,' No. 130.

³ 'Briefe an Bunsen,' p. 80.

but the initiated knew what was taking place.¹ With increasing discontent he perceived, during the important events of the year 1847, that he was not included in the mystic bond ; but it was only through an occurrence of a semi-political, semi-scientific character, which took place at the Academy during the months of January and February, that he had indisputable evidence of the fact. At the public sitting held in commemoration of Frederick the Great, on January 28, an historical address had been delivered in presence of the king by Friedrich von Raumer, in which he had dwelt at some length upon the tolerance and liberality of religious sentiment by which that great monarch had been distinguished. To modern readers the speech, which is marked by no brilliant display of talent, appears to contain so simple a statement of facts that surprise is excited that it should ever have given offence ; but the contemporaries of Frederick William IV. chose to consider it as an intentional satire upon their sovereign and his ecclesiastical proclivities, and no doubt the address was designed by Raumer to have a controversial aspect. Though receiving the usual formal congratulations, the speaker had been greeted by his opponents with outbursts of wild indignation.² The king was exceedingly indignant that on several occasions the audience behind him had laughed aloud ; and on leaving, he remarked to Humboldt : ‘ One is compelled to hear laughter over things that ought to make one weep.’ To Eichhorn he wrote that it was the last time he should go to the Academy to sit through such ‘ jesting.’ The majority of the academicians were greatly embarrassed by the incident, and immediately set to work to prepare some kind of apology. The occurrence placed Humboldt in an awkward dilemma. In writing to Schumacher on February 1, he expressed himself in unhesitating commendation of ‘ Raumer’s sensible denunciation of the modern school of theology with which the king had indeed been but ill pleased,’ adding, not without a slight tinge of malice : ‘ We live in skirmishing days.’ At first he conducted himself valiantly, and crossed swords with Encke for sending an abusive

¹ Varnhagen’s ‘Tagebücher,’ vol. ii. p. 247.

² Ibid. vol. iv. pp. 10, 11, 13, 26, 27, 29, 30, 42, 44.

letter to Raumer on the subject. Before the Academy he emphatically declared that he fully sympathised with Raumer's sentiments, both religious and political, but 'regretted the manner in which they had been expressed.'¹ He voted with the majority against the proposition for referring the address to an examining committee,² while he allowed a vote of censure to be passed upon the offending Raumer without recording a dissentient vote. Inasmuch as he had publicly acknowledged the impropriety of the address, Humboldt was compelled to add his signature to the apology presented by the Academy to the ministry, though designated by him as a 'miserable composition.'

Unfortunately he was led still further; it was one of his peculiarities that he could never emerge from a quarrel without concluding a diplomatic peace with all the parties concerned. 'I should be exceedingly grieved, my dear friend and colleague,' he wrote shortly afterwards to Encke, 'if in defending the intemperate speech of Raumer at the late sitting of the Academy, I made use of any hasty expressions which might possibly have given you offence. I hope you will forgive my indiscretion, and restore to me once again the kind feeling and gratifying friendship which I have so long enjoyed. A late dinner at the palace prevented me from expressing this to you in person at the last meeting of the Academy. With the most sincere esteem and affection; yours, &c., Alexander von Humboldt.' Shortly afterwards he expresses his satisfaction to Gauss that his friendly relationship with Encke had been completely re-established. We cannot but renew the expression of our regret that Humboldt should never have exemplified the assertion of the poet:³—'While here below, there's nothing worthy to excite a fear!' The justification, as imagined by Platen, to be pleaded by posterity—'His thoughts were too

¹ Letter to Gauss of March 23, 1847.

² The newspapers were incorrect in asserting that he had proposed a 'comité de lecture,' for he voted against the motion; he merely explained 'that the Academy should not be regarded in Paris as an illiberal institution.'

³ 'Hienieden lohnt's der Mühe nicht zu zagen!'—Platen's *Sonette*, No. 38.

noble to give birth to an unworthy action'—is unfortunately not applicable to Alexander von Humboldt; he proved himself capable, as numberless instances testify, of uniting grand thoughts with despicable actions. The 'unpleasant ferment over Raumer' did not wholly subside until the offending academician sent in his resignation. Humboldt expressed his satisfaction that Böckh had at last 'allowed reason to triumph in the affair,' and actually had the *naïveté* to propose to Raumer in confidence that he should make his peace with the Academy by means of a *Pater peccavi*. The Princess of Prussia was the first to convince him that to Raumer this would be a moral impossibility.¹

Scarcely was this 'storm' over, when Humboldt perceived another rising with threatening aspect, on the occasion of a 'gushing speech'² from Frederick William at the opening of the 'general diet' on April 11, 1847. Humboldt, who 'was much concerned for the fame of his highly gifted and benevolent sovereign, and was ever anxious that his virtues should receive public acknowledgment,' was deeply grieved to notice that in this important address 'everything that was of a nature to wound was heaped together.' He had never ventured to cherish any confidence in a political confederation 'in which the delegates from the Polish provinces would be brought to confront those from the Rhine or Pomerania, while the ministers would vainly imagine they could rule these opposing elements by a series of negations and conciliatory acts.'³ To his mind 'a general assembly of the people should consist of representatives of the nation, and not of an isolated province or a particular order.' Although the soundness of these views would place him in the category of modern liberals, he was by no means a blind adherent to the scheme of constitutionalism; he had little sympathy with the principles of parliamentary representation as exhibited in Dahlmann's 'Politik,' the text-book of that party. On April 10, 1847, he writes to Dirichlet:—'I have the misfortune to be reading just now the new edition of Dahlmann's "Science of Government." A savour of English

¹ Letter to Böckh and verbal communications from Raumer.

² 'Briefe an Bunsen,' No. 51.

³ Ibid. No. 48.

aristocracy pervades the work, and I am disgusted with his scheme for an Upper House, composed exclusively of titles and eldest sons. His sympathies are quite Hanoverian, and this passes in Germany for liberalism. Civilisation in its infancy.'¹ On this, as on most other subjects, Humboldt was accustomed to adopt the French mode of thought, but this did not prevent him forming a just estimate of the condition of home affairs.² The proceedings of the Diet gave him ground for hope. The king's answer to the address appeared to him excellent. 'It gave evidence,' he remarked, 'of a softening of rigid dogmatism, a leaning towards the reception of new ideas, and contained a promise that the Diet should periodically be convened. The patent as at present drawn up is impracticable. The impossible cannot be accomplished, but with moderate demands and a spirit of compliance the end may, I hope, be attained. It is difficult to trace the boundary-line which is supposed to exist between a constitutional form of government and the system promised in the patent. I have no doubt it will give great offence to many, but I have every confidence in the intelligence and noble sentiments of the king. We must all strive to lessen the difficulties of his position, so that Vienna and St. Petersburg may not be allowed to triumph.'³ It would have been scarcely possible for anyone at that period to have spoken in a manner more reasonable, more considerate, or with more unbounded confidence. It is true that on this, as on other occasions, his sentiments suffered a reaction in consequence of the failure of the expectations which the king had excited. In October Humboldt describes the king on his return from the Rhine 'as being in his usual high spirits,' but adds sorrowfully that in matters relative to the constitution 'all progress is at a stand-still, and there is no prospect of a settlement.'⁴ Had the French Revolution of 1848 never occurred, the development of affairs in Prussia might possibly have pursued the even course which, from the nature of the contending forces, Hum-

¹ See 'Briefwechsel und Gespräche Alexander von Humboldt's mit einem jungen Freunde' (Berlin, 1861), p. 9.

² Ibid. p. 10.

³ 'Briefe an Bunsen,' No 51.

⁴ Ibid. No. 55.

boldt had been led to anticipate. But both the king and the government were shortly to receive a more earnest warning, and witness a more tragic fate. The revolution in France brought no lesson to the presumptuous king, and was powerless to subdue the careless gaiety of his humour. 'Laissons passer en silence la justice de Dieu' were the only words in which, at the close of a note to Humboldt towards the end of February 1848, he deigned to allude to the fall of Louis-Philippe.¹ While strongly disapproving of Guizot's ministry, Humboldt keenly sympathised with the feelings of the French nation,² and waited in silence—as neither words nor endeavours on his part were of the slightest avail—for another 'justice de Dieu,' soon to overwhelm Prussia and her king, by whom all warnings had been systematically disregarded. Of this we shall speak more fully in the following chapter.

Having thus passed in review the principal features of the personal and political relationships maintained by Humboldt with Frederick William IV., it now remains for us to consider the influence he exerted in the cause of literature and science, and the patronage he exercised in procuring for men of talent appointments, pecuniary assistance, or the honour of a decoration. Political influences not unfrequently mingled even with these affairs, especially after the occurrences of 1848, and for a special record of the incidents of that period we refer our readers to the following chapter. The intellectual tastes of the king led him naturally to take a more active part in scientific matters than his predecessor; it is well known that in everything relating to art he always took the initiative. In the nominations and appointments which led the public to recognise in the new sovereign a man of superior intelligence and high mental culture, there was, however, to be traced the influence of Humboldt; for though it was often difficult to determine with whom the idea originated, the persistent prosecution of a scheme was undoubtedly to be ascribed to Humboldt. To him was usually assigned the conduct of the transaction, and in all important details he was invariably consulted. The recall of the seven professors of Göttingen and their public

¹ Varnhagen's 'Tagebücher,' vol. iv. p. 215.

² Ibid. vol. iv. p. 255.

indemnification, one of the first acts of Frederick William IV., was no more than was to be expected from the expressions he had made use of when crown prince.¹ This opportunity for a display of pure German patriotism¹ was eagerly seized upon by Humboldt, who used every endeavour that the arrangements should be carried out 'in a direct and strictly official manner.' The cause of the Grimms was advocated personally by the king, so that the interference of Bettina von Arnim could well have been dispensed with, as Humboldt saw reason to apprehend danger from her undiplomatic mode of procedure. To Humboldt alone is due the simultaneous recall of Albrecht and Dahlmann, in whose favour he himself drew up a memorial for presentation to the king. Under the conviction that Dahlmann was in every way fitted to 'secure the renown of a university,' he induced Ladenberg, who till the autumn of 1840 had provisionally undertaken the administration of public instruction, to nominate him, 'with many flattering expressions,' to a vacancy at Breslau. 'Consideration for Hanover,' however, withheld the king from confirming the appointment. Albrecht felt himself too much under obligation to Saxony to avail himself of the recall. On the accession to office of Eichhorn, the new minister for public instruction, Humboldt conceived himself obliged to abstain from any interference; nevertheless he could not but rejoice 'that the Government had asserted its independence.'

Although Humboldt may have been restricted in his efforts in favour of the Göttingen professors by important political considerations, he showed his genuine interest in science by inducing the king, during the first months of his reign, to grant 7,000 thalers yearly to the University of Königsberg and 20,000 thalers to that of Berlin.² By such munificence the slender finances of the minister for public instruction were so nearly exhausted, that, in procuring a position for Felix Mendelssohn and Cornelius, he found with regret that the king was obliged to create funds. In securing this honour for Berlin, he was warmly seconded by Bunsen, in concert with whom he

¹ 'Briefe an Varnhagen,' No. 40. On the recall of the seven, see *ibid.*, Nos. 48 and 51. 'Briefe an Bunsen,' p. 47.

² 'Briefe an Bunsen,' p. 40.

conducted the negotiation with Cornelius. In communicating his acceptance to Humboldt on January 8, 1841, Cornelius remarks:—‘I view it as a happy augury that the affair has been brought about by one of the favoured few so fortunate as to be loved both by the gods and mankind.’ With no less energy did Humboldt exert himself for many years to secure an appointment at Berlin for Rückert, until he was checked by his grateful assurances ‘that he was wholly unfit to appear before a Berlin audience, and that his mode of life was far more suited to the retirement of the country.’¹ The advent of Schelling, on the contrary, was viewed by Humboldt with indifference, eagerly as he would have welcomed him in 1835, ‘as one likely to infuse into the dull and stagnant life at Berlin an animating principle to quicken, elevate, and ennoble, whereby public attention might be diverted from empty frivolities to the consideration of something higher and nobler;’² there was a melancholy truth in the observation he addressed to Böckh in a letter in 1840, that Schelling is coming, ‘apparently as a mummy, to complete the fifth age of the world.’ Though welcoming in Tieck a source of intellectual stimulus to the court, it can hardly be supposed that he felt any keen interest in his arrival; for the flattering remark he made to him in 1847 ‘that he had never ceased to rejoice in his presence,’³ can scarcely be regarded as sincere in view of the satirical manner in which he often alluded to him, especially on the occasion of the representation of ‘Antigone.’

The arrival in the capital of these distinguished leaders of elegant literature and the arts deprived Humboldt of the exercise of any direct influence upon these subjects; but he was thereby enabled, with all the more freedom, to indulge his criticism, in proof of which, were such trifles worthy of being recorded, we might adduce the remarks he made upon the reproduction of the tragedies of Sophocles. An undertaking of some importance now demanded his assistance in the publication, by the Academy, of an edition of the works of Frederick the Great. He had indeed felt somewhat aggrieved that ‘not

¹ ‘Briefe an Varnhagen,’ No. 113.

² ‘Briefe an Bunsen,’ p. 18; see also p. 48.

³ ‘Briefe an Ludwig Tieck,’ edited by Karl von Holtei, vol. ii. p. 34.

a word had been said to him under either reign concerning such an edition, although he had himself conducted a French work through the press, at a cost of 600,000 francs,' and though he would not, under any circumstances, have refused a commission from the Academy, he positively declined to act either as President or Secretary of the Committee. He could not but view with irony the commission given by the king to August Wilhelm von Schlegel to write a preface to the work in French; 'Schlegel,' he remarks to Böckh, 'is doubtless the only person in Germany who can write modern French with elegance and correctness, and who has made a study of the technicalities of printing. In spite of the thirty volumes I have published in that language, I am not supposed to be able to compete with him, nor have I the slightest inclination so to do.' At first Humboldt anticipated that 'Schlegel, from his conceit, would form a subject of amusement at the Committee,' but he gradually grew weary of the 'tedious folly' of the 'Buddhist of Bonn,' whose letters appeared to him nothing but 'empty scribbling,' till at length he did not scruple to indulge in the bitterest comments upon that 'Indian ape Hanuman.' Humboldt was at some pains to persuade the king to commit the work entirely into the hands of the 'honest Prussian,' only in this way could the Academy be fully responsible for the work; and it was altogether opposed to his wish that the military portions of the work were submitted to a subordinate committee of military men. He, as usual, undertook the task of obtaining the necessary funds from Government, and when Böckh, on account of the disunion of the Committee, expressed some intention of sending in his resignation, he averted the 'danger' by another interview with Eichborn, to whom 'he complained that so little was done to render matters agreeable to Böckh.' Pietistic machinations, headed by the king, were incessantly at work to suppress in this edition all the non-historical writings of his great ancestor; but on this point Humboldt made a valiant stand in the interests of science, and after an earnest discussion with the king 'at the close of which he displayed some emotion,' the affair was put on the right track.¹

¹ Varnhagen's 'Tagebücher,' vol. ii. pp. 40, 41; and from unpublished letters to Böckh.' See also Trendelenburg's 'Kleine Schriften,' vol. i. p. 306.

From Humboldt's correspondence with Bunsen we learn that he was interested in another important undertaking, reflecting glory upon Prussia, and the scientific enterprise of Germany,¹ namely, Lepsius' expedition to Egypt. In order 'that a more liberal outfit might be secured for the expedition, that his own exertions should appear disinterested, and that his opinion might command more weight,' he persuaded Bunsen, instead of dedicating his works on Egypt, as he had intended, to himself, to dedicate them to the king. His marked predilection for ancient history led him to take the liveliest interest in the results of the explorations, and to view the treasures brought over by the travellers as 'worth five times the cost of the whole expedition.' Although anticipating the order of events, we may here mention that Humboldt was mainly instrumental in arranging the expedition of Brugsch to Egypt, whereby important scientific results were obtained. To Brugsch he proved a benefactor in the truest sense of the word, for, recognising his remarkable talents, he furnished him with the means for the publication of his '*Scriptura demotica*,' and was highly gratified by the encomiums the work gained for his young friend in France. 'I am not one of those,' he writes to Böckh, 'who imagine that commendation and encouragement bestowed at the commencement of a career necessarily work mischief. I think the effect is far more likely to be to infuse a feeling of self-respect and a sense of obligation to continue worthy of esteem.' At Humboldt's request, the king furnished Brugsch with means for the journey; no wonder, therefore, that in gratitude to his benefactor, he wrote from Karnak on November 17, 1853, that he had 'kissed his long and welcome letter a thousand times, reading it and re-reading it like a morning and evening prayer.' Humboldt defended his young friend with great earnestness from the attacks of Lepsius, whose behaviour to his weaker opponent had appeared to Humboldt 'quite unworthy' of the distinguished scholar.²

Another important undertaking to be ascribed to Humboldt was the establishment of the Meteorological Office in 1848,

¹ '*Briefe an Bunsen*,' pp. 34, 36, 45, 50, 57, 62, 60, 80.

² To Böckh. See also '*Briefe an Bunsen*,' pp. 108, 103, 122, 129.

upon the appointment of Dieterici to be director of the Statistical Department of Prussia. 'May you only be granted the means for displaying your activity!' he remarks to the new director on August 13, 1844. 'What a pity there is no organised arrangement in your department for the collection of a series of observations in Pomerania, and other provinces, as to the mean temperature of each month, which would prove of considerable value, both to agriculture and navigation. Twenty barometers disposed among suitable observers would show remarkable variations in their readings. Observations are, indeed, made in various localities, but the results are buried in day-books. There is a constant complaint throughout the country of the diminution of the water supply and the increased shallowness of the rivers, and yet in no part of Prussia is there kept a register of the rainfall. Could you but secure the services of Dr. Mahlmann, who has published some admirable tables on the temperature, he would be well fitted for the office, and would not expect a large salary.'¹ By an order in council of January 9, 1846, permission was granted for the establishment of an office of meteorology, and Mahlmann, for whom Humboldt had already sought assistance from the Academy, was appointed director, an office he held but for two years, till his death in 1848. Humboldt lived to witness the prosperity of the scheme, under the management of a director of whom he vaunted that 'with great ingenuity and perseverance he had laid down new and sound theories as to the distribution of heat upon the surface of the globe;'² he had also the satisfaction of seeing at least the whole of northern Germany brought by Prussian influence under a system of meteorological observation, of seeing, for the first time, tabulated a registry of the weather for ten years throughout Germany, in which the average rain-fall was represented with great accuracy, especially in North Germany, together with a register of the decrease in temperature dependent on the greater elevation of the plains. He followed with the liveliest interest the publications of the results, and sought to excite the attention of the king to the

¹ Rich. Böckh's 'Die geschichtliche Entwicklung der amtlichen Statistik des preussischen Staats,' p. 63.

² A. von Humboldt's 'Kleinere Schriften,' Preface, p. vi.

subject, as the eccentric curiosity of Frederick William found interest even in meteorological phenomena.

In the period now before us, the services Humboldt rendered to science consisted mainly in the patronage he was able to accord. Countless letters are still extant bearing testimony to his indefatigable exertions to enlist in the support of various scientific undertakings the interest of the king, the Government, or the Academy, and to obtain increased remuneration for the professors at the Universities, that men of power and distinction might have no temptation to accept the alluring proposals of foreign countries, but should find it their best interest to seek to fill the vacancies that might occur in their own land. We are withheld from entering into details from the circumstance that many of the persons here referred to are still living; but the reader may feel assured that in everything of this nature Humboldt lent his assistance. It may well be asked by those attentively considering the subject why so little was accomplished, and how it was that Humboldt's influence was either so frequently disregarded or only took effect after an amount of delay that must have been exceedingly irritating. The anomaly is to be explained by the unsatisfactory nature of his non-official position. It cannot, indeed, be sufficiently regretted that he was not invested with some official power—if only as minister for instruction—and entrusted with the responsibilities inseparably attached to a government appointment. The responsibilities of office would doubtless have acted as a wholesome check upon his impressionable nature, which led him, even in matters of patronage, to be too easily influenced. From his unofficial position, he was restricted to efforts of an unusual and extraordinary character; and it was therefore no wonder that he constantly complained of being crossed, opposed, and hindered by the tedious and unalterable routine of government operations. With the exception of ecclesiastical affairs, and the interests of art, Frederick William IV. soon left the cares of Government to his Minister of Public Instruction. The Minister of Public Instruction, therefore, and the Minister of Finance, upon whom the onus of refusal was generally thrown, either honestly or by way of excuse, were regarded by Humboldt as two adverse powers, which, in the cause

of intellectual progress, were to be contended with and conquered, either by force or cunning. As far as Eichhorn was concerned, his complaints were fully justified. In writing to Bunsen¹ on September 17, 1844, he remarks:—‘Communication between men of science is a matter of such importance that it is much to be deplored that the Minister of Public Instruction has deceived all our hopes. Passion and imprudence, such as were scarcely to be looked for in a versed diplomatist, and an entire absence of appreciation for science, have enabled him to solve the difficult problem of making himself disagreeable in the shortest possible time to all the Universities, and to all the men of European reputation of whom he happens to be in ignorance.’ In reference to the attitude maintained by the Minister of Public Instruction towards science, Humboldt was accustomed to employ such expressions as ‘*économie de chaleur*, glacial temperature, icy stupidity;’ in times of reaction under Raumer’s administration, he was, however, reduced to admit that ‘in contrast with such an iceberg, even Eichhorn’s minimum appeared a temperate climate.’

‘When those,’ he once exclaimed to Böckh in genuine distress, but with a total disregard of grammar, ‘who, like yourself, are possessed, not only of extensive erudition, but of an unusual talent for statesmanship, one cannot but feel aggravated that such are not at the head of affairs in the place of the sterile iceberg that now reigns there!’ Of Thile, the Minister of Finance, Eichhorn’s colleague, Humboldt sarcastically remarked that he ‘viewed mathematics, philosophy, and poetry as mere articles of luxury;’ he was annoyed that the king should have sent one of his petitions in favour of Jacobi *pro formâ* to Thile, instead of ‘granting, *brevi manu*, the small sum of money required.’ In 1847, when urging a suit with great persistency, he very characteristically points out the hope, that by the fall of the two celebrated houses (Tieck and himself) there would soon be effected a yearly saving to the country of 10,000 thalers.’

Under these difficult circumstances there remained to Humboldt but three ways by which to attain his object. To make direct application to the obdurate ministers, to influence them indirectly through their fellow-counsellors, or to enlist against

¹ ‘Briefe an Bunsen,’ p. 63.

them the superior authority of the king. With consummate tact he was accustomed to employ any or all of these manœuvres. By conversation or by letter, at an incidental meeting or at a special interview, he laid his requests before the ministers; he sighed every now and then over the 'humiliation and abasement' of the begging and petitioning to which he submitted for the most part in vain, but, like the mendicant friar begging for his convent from door to door, he suppressed every personal feeling of discomfort by the thought of the cause he was intent on serving. He was moreover obliged to confess himself to blame for many of his disappointments. Friedrich von Raumer called his cousin once to account for paying so little regard to the recommendations of a man like Humboldt; whereupon the minister replied that he was not to blame this time, as Humboldt had warmly recommended no less than three candidates for the appointment in question: he had therefore no reason to complain that two of them had been rejected. Fortunately Humboldt had now a friend in the ministry in the person of Johannes Schulze, in the Department for Public Instruction, a man of classical education and liberal tone of thought, upon whose sagacity and discretion he could rely. A confidential correspondence maintained during several years bears witness to the good results of this intimacy. When narrating Humboldt's exertions in favour of Eisenstein, we shall have occasion to give many extracts from his letters to Schulze: it need only be remarked here that he was in the habit of appealing to him in the first instance, as by no means the least powerful source of assistance in questions relating to appointments and applications for government aid. 'It is still uncertain, as everything in the future is,' he writes once to Böckh, 'and in the midst of such uncertainty there is nothing more to be done than to keep up the steam in the locomotive G. O. R. R. Schulze.' On another occasion Humboldt wrote to Dirichlet, 'Pray do what you can by thundering at the Kupfergraben where that noisy steam-engine Johannes Schulze is at work.' When nothing was to be accomplished by this steam-power, there still remained the king as *Deus ex machinâ*.

Humboldt was perfectly aware of the slender means at the disposal of Government for the encouragement of science and

art. He was no stranger to the fact that extensive scientific institutions were, unfortunately, expensive to keep up when concentrated in the capital. 'This consideration,' he writes to Encke 'was a powerful motive with my brother in opposing the establishment of a University at Berlin. How distressing would it be to all parties were it found to be necessary at some future time to increase the grant to the University by one half!' When cases of emergency were brought before the notice of Alexander von Humboldt, he found it quite impossible to withhold immediate assistance. Thus, when the Government failed to render aid for want of courage, Humboldt would use his influence upon the generous disposition of the king, and in urgent cases Frederick William IV. never refused assistance. Prior to the events of 1840, it had been a cherished wish of Humboldt's to obtain an increase of salary for Jacobi, the great mathematician, but for such a man it seemed to him unworthy to 'attain his object through such a sleepy crew as the ministers,' and he therefore determined to secure in person the consent of the monarch at his coronation at Königsberg. Upon Jacobi's dangerous illness, three years later, he interceded with the king for a grant of 1,500 thalers to defray the expenses of a journey to Italy: three hours afterwards an order for payment was transmitted to Thile. Humboldt wrote with great delight to Dirichlet on May 28, 1843:—'The king "highly approves" my letter, and told me at once he should send an order, not for 1,500, but for 2,000 thalers. When renewing my thanks upon bidding him good night, he naively remarked, "How could you think I should act otherwise?" He is indeed a noble character.' Many such instances might be adduced during the years prior to 1848. We shall content ourselves with observing that the king was influenced not merely by the pleasure he took in noble resolves, but in the sympathy he felt for everything intellectual. It was this sympathy that Humboldt knew well how to arouse. Even the pension bestowed by the king with so much delicacy and good feeling upon Henriette Herz at the close of her life, was prompted by the admiration Humboldt expressed for her intellectual powers.¹

¹ Varnhagen's 'Tagebücher,' vol. iii. p. 258; see J. Fürst's 'Henriette Herz.'

When Humboldt perceived how lavishly the royal dilettante could expend upon fancy edifices and other undertakings connected with the fine arts, he began to cherish the hope that by exciting his interest in science, he could induce a similar liberality in its support. On the discovery of the planet Neptune, in 1846, 'he made the most of the occasion to point out to the king and the ministry the importance of science.' With no other object did he read aloud to the king of an evening on scientific subjects, or throw out a thousand instructive hints in conversation upon the results of recent scientific investigations. With the same view he would read to the king the letters from other sovereigns he had received in reply to communications addressed to them for the purpose of awakening an interest in some scientific enterprise; for his labours in the cause of science extended even to foreign countries. In 1844 the Grand Duke of Tuscany expressed his thanks to Humboldt in a 'truly sympathetic letter,' for the recommendations he, 'as the father and patron of the natural sciences,' had given him, 'in order that Tuscany might be enriched by many men of distinction.'¹ Christian VIII. of Denmark, with whom Humboldt, as we have seen, had already been in correspondence, showed a courteous readiness to receive counsel and enter freely into a discussion of scientific subjects. Along with Arago, Humboldt had induced the King of Denmark in 1843 to grant a sum of money to Hansen for the completion of his lunar tables. 'Anxious always to merit your approbation, Monsieur le Baron,' writes King Christian on May 3,² 'I desire to be guided by your wisdom, and I shall be pleased at any time to hear from you on scientific subjects.' Humboldt was so delighted with the success of his intercession, and the gracious manner in which his request had been granted, that he designated the Danish kingdom as 'the Fortunate Islands:' 'I think those islands deserve to be called "*Islas fortunatas*" which are governed by a prince of so much intelligence, gentleness, and enlightenment.'³ He was much disturbed that the

¹ 'Briefe an Varnhagen,' Nos. 88, 80.

² Ibid. No. 81. See No. 58, p. 97.

³ Letter to Schumacher of May 18, 1843.

king had sent no direct reply to Arago; and in order to procure this gratification for his republican friend, he wrote five letters of reminder at short intervals to Schumacher. On the principle of *do ut des*, which he expresses with some *naïveté*, he urged Schumacher to address a letter to Frederick William IV., alluding in flattering terms to the little that Prussia had as yet effected in astronomy and geodesy. 'Expressions of interest of this kind from one occupying an entirely independent position cannot fail to exert an influence beneficial to science.' Thus were both princes and statesmen entangled by him in a harmless intrigue in favour of the advancement of science. In invariably adopting an involved course of action in his benevolent schemes, it would be difficult to say whether he was most influenced by the natural bias of his mind, or by an acute insight into court life. In any case, he was always deeply gratified by the success of such trivial artifices, and allowed himself without hesitation to be made use of by others in all such matters: 'Only tell me, my dear friend, exactly what you wish me to say, that you may make what use of it you can.'

Humboldt's friendly relationships with Denmark were further cemented by a visit of four days to Copenhagen in June 1845, when he delivered a magnificent speech 'from an open window,' in praise of the nation and its illustrious monarch.¹ On the voyage out he had a narrow escape of falling overboard while on deck with the king, watching the waves in the moonlight. 'It would have been a charming way of quitting life,' he wrote gaily to Arago, 'and making a prudent retreat from the second volume of "Cosmos."' He escaped with a bruise some eight inches long—an impress of the deck after 'Moser's process of nature printing.'

Among these efforts on Humboldt's part to excite in the king—not a love of science, for that he felt was an impossibility—but some appreciation of scientific men, must undoubtedly be included the energetic employment of his influence as Chancellor of the Order of Merit, created in 1842, by a spon-

¹ 'Briefe an Varnhagen,' No. 71: the year given, 1843, is erroneous. See 'Tagebücher,' vol. iii. p. 101, and especially De la Roquette, vol. ii. p. 311.

taneous act of Frederick William IV. Humboldt was accustomed to disclaim in the most vehement manner having had anything to do with the institution of this Order, and criticised without reserve the weak points in its regulations; but there was so much in the fact of such an Order that embodied his views upon the need of representing by some outward token the might of intellect, that we feel constrained to enter more fully into the subject. It is well known that, theoretically, Humboldt viewed with contempt all modern decorations of this sort. He never made use of his own, except where it was absolutely necessary;¹ in accepting the dedication of books or maps, to which he invariably manifested the greatest reluctance,² he distinctly forbade the employment of his 'decoration hieroglyphics';³ while the sarcasms are familiar to all in which he perpetually indulged upon those who sought to 'make themselves conspicuous by their glass buttons, peacocks' feathers, and ribands,'⁴ as for instance upon the rich decorations worn by Berzelius, described by him as '*une voie lactée de crachats aux deux hémisphères*.'⁵ Nevertheless, constituted as the world now is, he looked upon orders and decorations as a necessary evil. In writing to Jacobi, he remarks:— 'There is something very irrational in the connection between our foolish decorations and intellectual distinction, something very incomprehensible, that is to say, unreasonable. From this condition of things it follows that in certain cases an irrational cause may be found to produce a reasonable effect, such as influencing public opinion, and inspiring an enthusiasm for the study of science.' Upon another occasion he remarks to Berghaus, for whom he was anxious to procure a Russian order, in recognition of his '*Physical Atlas*':—'You must in this point give way to the customs of the world, which I admit are rather unreasonable, in the belief that merit is to be judged by outward tokens, such as ribands, stars, &c. It is just on account of this weakness that I wish you to fall in with

¹ See '*Briefwechsel mit Berghaus*,' vol. iii. p. 317.

² *De la Roquette*, vol. i. p. 171.

³ '*Briefwechsel mit Berghaus*,' vol. ii. p. 285.

⁴ '*Briefe an Varnhagen*,' No. 68.

⁵ *De la Roquette*, vol. ii. p. 304.

my suggestion. You owe it also to your family, for your children, belonging to this generation, will know nothing of the simplicity of view prevalent among men of science when their father commenced his career.'¹ There was doubtless some truth in this remark upon the increasing value set upon such marks of distinction during the first half of this century, especially by men of science in Germany. Scientific investigators had gradually assumed the position in public opinion formerly only accorded to the leaders in poetry and literature, and at the same time naturally arose the desire to testify this rank by some outward sign; orders and titles so rarely sought by the recipients became at last to be received by them as something inevitable—a matter of course. During a long residence at court, Humboldt always lent his assistance towards this result, and numerous were the instances in which marks of distinction of this kind were given at his instigation. His chief aim in these exertions was to give a more elevated direction to the king's views; while stimulating him to the bestowment of these rewards for intellectual service, which in themselves were of little value, he hoped to excite in him an appreciation of men of science, and to lead him to extend to them his liberal support. With these views he could not fail to be pleased when, in the spring of 1842, Frederick William IV., in worthy emulation of the spirit of his ancestor Frederick the Great, instituted the Order of Merit, to be conferred on any 'who throughout Europe had won for themselves a name either in the arts or sciences.'²

Humboldt was nominated chancellor of the new order for life, which occasioned him at first frequent annoyance, partly through the transactions in which such an office necessarily involved him, and partly through the need of absolving himself from the imputation of being responsible for the first nominations. The duty of making out the first list of knights was

¹ 'Briefwechsel mit Berghaus,' vol. iii. p. 313.

² For the history of the Order see 'Briefe an Varnhagen,' pp. 120–22, 176, 207, 218; Varnhagen's 'Tagebücher,' vol. ii. pp. 295, 303, 358; 'Briefe an Bunsen,' pp. 52, 55, 57, 58, 61, 145, 146, 154, 155, 157–60, 162. No subject perhaps is more frequently alluded to than this in Humboldt's unpublished correspondence.

nominally left to the ministers Eichhorn, Thile, and Savigny, but their choice was to a great extent overruled by the capricious and powerful influence of the king: in this matter, according to Humboldt, he showed himself, when deviating from the opinion of his ministers, 'superior to the trivial considerations of party feeling or aristocratic prejudice.' The first list was drawn out by the king in Sanskrit character—'a habit with this enthusiastic prince, that no one should read the memoranda lying on his writing-table.' The institution of this order, with which Humboldt so far sympathised that he spoke of it to Gauss as a noble thought 'to associate the illustrious Frederick the Great with the intellectual glory of the present and a future age,' was yet a scheme which he discountenanced for the reason 'that he foresaw that animosity would be excited in those who were not selected for the distinction.' He did in fact receive 'many abusive letters from those whose names were not on the list.' Several names of celebrity were eventually expunged on account 'of the unfortunate resolve to restrict the number to thirty, instead of forty-six—the years of the reign of Frederick the Great. Many chairs are thus upset. *Hinc illæ lacrimæ!*' Humboldt especially commends the king for having, in deference to Frederick the Great, 'excluded theology from the qualifications, since to him theology had been but a myth.' In writing to Bunsen, Humboldt remarks:—'With the exception of Metternich and Liszt, no nominations have been made which cannot fully be justified, and it may be stated with pride that they have been selected without the slightest reference to political or religious opinions; there are, however, certain names distinguished in science and art for the omission of which it would be hard to find a reason.' The friendly footing maintained by Humboldt with most of the scientific men in question, must often have placed him in great perplexity, when, through the erroneous supposition that the king acted under his advice, they imagined themselves to have been bitterly deceived. Peculiar difficulties awaited him in England, where the law prohibited the acceptance of foreign decorations. At Herschel's suggestion, the difficulty was obviated in his case, and subsequently in Macaulay's, by permission being granted to accept the investiture of the order

without incurring its duties : Robert Brown and Faraday, however, permitted their names to appear in the list of Fellows of the Royal Society as Knights of the Order, thus, as Humboldt ironically observed, 'in childish vanity disregarding every prohibition.' Through the influence of Humboldt the selection of foreign knights was deferred to the recommendations of the Academy of Sciences, 'that upon his death the order should not be degraded by the undue influence of the court.' In a similar spirit he watched throughout life over the interests of the order, seeing that no statutes were infringed, and no outward observance disregarded. 'You may imagine,' he writes to Bunsen, 'how easily the idea would suggest itself of instituting various *classes* and badges, representing a quarter, a half, or a three-quarter great man, pathological distinctions which in other orders have created so much envy and hatred, especially where, as in the order of the Red Eagle, the badge (!!!) "*carrying weight*" has been a supplementary invention.'

Side by side with the angry disappointment of those who had been passed over, Humboldt had the pleasure of receiving the thanks of the favoured recipients of the honour. 'I accept this distinction,' writes Arago, because it is far above any mere order ; it is a vast European Academy.' Ingrès, with the enthusiasm of a Frenchman, accompanies his thanks with the expression :—'Except by the power of Heaven, how could the glory of your prince be more nobly supported than by your presence, Monsieur le Baron, to whom are to be ascribed the daring efforts of the finest intelligence of the age!' The honour was also gracefully received by Metternich, who had been selected by the king, as Humboldt supposed, with the view of silencing his criticism. With becoming modesty Metternich always submitted his votes to the wishes of the Chancellor of the Order. 'You are aware,' he writes, on May 16, 1853, 'of the complete confidence I repose in his Majesty, that any choice the king may make will be that best adapted for the support of the institution which his genius has called into existence. My vote can but represent that of a very humble servitor to the servants of science ; it is only by submitting it to an authority of a much higher order that I can hope to give it value. Ambition, my dear Baron, knows

how to disguise itself under a thousand masks ; forgive me the one that mine has assumed !'¹ Humboldt, who preserved to the last a keen appreciation of the intellectual, though somewhat frivolous, correspondence of his quondam fellow-student, ventured once in the face of his own admission to defend the nomination of Metternich to this honour, against the sarcasms of Berlin, by the assertion that this conservative statesman had never neglected the duty of extending his protection to science.

As years rolled on, Humboldt was often heard to assert that the institution of the Order of Merit had 'done little to enhance the lustre of his latter days.' It is true he showed the same lively interest whenever a vacancy had to be filled up, as he did in all elections at the Academy, and he always manifested extreme pleasure whenever 'he had accomplished anything reflecting glory upon the order ;' but these efforts were not made without considerable exertion. In many cases he had to consult the wishes of the king, who, as a rule, forbore to take the initiative ; and the influence he exerted among his fellow-knights was not always crowned with success. On one occasion, he complains bitterly that a candidate in whose cause he had written seventeen letters had received but thirteen votes, and thus 'four letters had been in vain.' Gauss even, in the selection of a candidate among geologists, 'subordinated his own wishes with the greatest pleasure to those of Humboldt ;' and Böckh, to whose counsel Humboldt often appealed when making choice of a philologist, showed himself in return ever ready to lend his vote. 'Do you absolutely insist on Lobeck,' Humboldt once inquired of him, 'or is there any chance for me to make you waver ?' On the death of Buch, Wilhelm Schadow made a direct appeal for his 'word of promise,' accompanying his request with the delicate excuse :—'In case of a vacancy occurring among the votaries of art, one cannot have the satisfaction of offering you a return service, so that there only remains the consolation of thinking there is but one man in the world whose opinion is of universal value.' But it was not every member of this intellectual Areopagus who was willing to confess inadequacy of judgment concerning the achievements of others in departments

¹ See 'Briefe an Varnhagen,' Nos. 98, 122.

of labour with which they were themselves unfamiliar, and far too frequently Humboldt had to complain of the 'stupidity of setting sculptors to elect astronomers, and geologists to elect painters, and this by way of proving it a liberal institution.' 'How little,' he complains to Böckh, 'are the so-called intellectual men of Germany imbued with the spirit and object of this institution, which is intended to unite in a select band the most illustrious men in Europe, when I have just received a voting paper for Kunth, from Jacob Grimm, who suggests the name of Andreas Schmeller "on account of his excellent Bavarian dictionary in four volumes!" It makes one sigh.' Humboldt's smile was also called forth by Rückert's voting paper, 'nominating Justus Liebig, professor at Giessen, as an elegant German writer, and Dr. Ludwig Uhland, professor in Tübingen, as a successful German antiquary;' his indignation was seriously excited against Schelling 'for withdrawing his vote from Liebig because his son-in-law, a farmer, had complained of Liebig's artificial manure as disgusting in smell, and wholly unmanageable. Strange logic!!'

Humboldt's indignation was aroused still more keenly by the non-voting of members. 'Your election by seventeen votes,' he writes to Dirichlet on August 15, 1855, 'was unanimous, for you had all the votes that were recorded, inasmuch as on this occasion twelve knights *again*, with great want of chivalry, sent no reply, and thus displayed a lamentable indifference very characteristic of Germans. It is the only order in Europe in which the vacancies are filled up by the votes of the existing members, and of the thirty associates entitled to vote by this most liberal institution, there are twelve—nearly half—who take so little interest in its fame that they can only be induced to vote from a feeling of opposition, when they wish to keep out some particular candidate.' He was constantly subjected to similar annoyances from the Academy, with whom lay the right of proposing a name upon the election of a foreign knight. To Jacobi he complains:—'A fifth of the members of the Academy, with a Cato-like scrupulosity, will have nothing to do with the order because it would involve humbly offering counsel to the king upon a question of science.' Even for these academic nominations, he was accustomed to draw up a

list to circulate among his friends. 'Do not mention it as a wish of mine,' he once wrote as a caution to Böckh. From the unrivalled position he occupied in the scientific world, enabling him, as Schadow justly remarked in the words above quoted, to survey every branch of science, he thought he was justified in regarding himself as chiefly responsible for the selection of candidates. It is difficult otherwise to interpret his remark to Böckh, when urging the election of Hammer-Purgstall:—'He lies heavily upon my conscience; and I seek a means of reconciliation before meeting him beyond the clouds.' He frequently felt obliged to apologise to some Berlin physicist in the words:—'Some day you will become a recipient of my particular decoration.' When led by political sympathy to complain of the rejection of Raumer in favour of Ranke, he appears to have been actuated by party feeling, in forgetfulness of the principle for which he had so warmly commended his sovereign when excluding every political and religious bias in drawing up the first list. In the case of Uhland he was severely punished for making the gift of this purely intellectual distinction a demonstration of political feeling.

It was not merely by Englishmen that difficulties were felt in the acceptance of the Order of Merit; in 1844, soon after its institution, it was declined by Manzoni, on the ground that his principles prohibited him from wearing an order. Humboldt, who never omitted the self-imposed task of informing the new member of his election in a flattering letter, immediately proceeded to supplement his first communication by a pressing request 'not to reject a mark of royal favour which the king, in admiration of your poems and as a graceful tribute to your country, has felt it to be a pleasure to bestow.' Upon condition of being released from any obligation to wear the order, Manzoni consented to accept it, and thus spared both the king and Humboldt the unpleasantness of cancelling the nomination and election. His name was enrolled upon the list, and the affair created but little disturbance.¹ Much greater attention was aroused by Uhland's persistent refusal to accept the order,

¹ For Manzoni's acceptance of the order, see 'Briefe an Varnhagen,' No. 114: the rest of the correspondence is unpublished. See also 'Briefe an Bunten,' pp. 155-6.

rendered vacant by the death of Tieck in 1853. Böckh was the first to propose Uhland as a suitable candidate; Humboldt's wishes centered upon Raumer, 'Tieck's dearest friend,' but fearing there was no chance of his election, he proposed to Böckh to unite with him in favour of Uhland, in whose cause he had been on the point of writing to him. On October 3, 1853, only six days after this resolution, he speaks of canvassing actively for votes:—'I cannot but smile over my affection for Æschylus-Uhland, who is in fact personally unknown to me. I am writing the ninth letter on his account—and he, forsooth, is the greatest poet that Germany can produce after Puss in Boots!'¹ From the pardonable doubts as to Uhland's poetic genius conveyed in these words, it may well be supposed that Humboldt's interest in his election was mainly excited by the circumstance that in the prevailing political reaction he was a '*persona ingrata*.' On November 27, he wrote to Böckh:—'To you, my dear friend, who first originated this suggestion, so gratifying to liberal Germany, I hasten to communicate the intelligence which perhaps you have already surmised (since I wrote nine letters on the subject), that Uhland has been elected by sixteen votes out of twenty-two. . . . As I just now informed the king of the result, he remarked:—"An excellent choice; I am much pleased." I am almost convinced that even should the king change his mind, I shall still be able to win the day—nevertheless, I must beg of you not to write just yet to Uhland, and in general society only to refer to the nomination as being "much approved." It will have a good effect upon his countrymen, inspiring them with right views.' He then proceeded, while making use of a favourite expression, 'a title is a handle,' to inquire the titles due to Uhland, as he should have to write to him in announcing his election. On December 5, at one o'clock in the day, the nomination was presented to the king, and received the royal signature, 'not wholly without protest.' At six o'clock on the same day, Humboldt wrote 'in an affectionate tone' to Uhland,² telling him of the realisation of hopes that he had long cherished.

¹ [In allusion to Tieck, who had dramatised this popular fairy tale.]

² The correspondence between Humboldt and Uhland was published in the German newspapers in November 1865.

he was unwilling to deny himself 'the pleasure of renewing the expression of his homage to one who had proved himself so ready to devote to the service of his country the highest gifts of song, the deepest poetic feeling, and the noblest freedom of thought.' Only two hours after these lines had been penned, Uhland's remarkable letter of December 2 arrived, in which, upon the rumour of his election, he 'unhesitatingly' declined to accept such an 'honour, inseparably connected as it was with a position of rank,' because he should be thereby occupying a position entirely inconsistent with his principles, both in literature and politics, to which he had never been unfaithful, though he had forborne to give them prominent expression. 'This inconsistency,' he nobly adds, 'would be all the more striking from the circumstance that after the wreck of national hopes in which I also indulged, it would ill become me to wear the insignia of honour, while those with whom I was associated in the endeavour to realise these hopes have—merely because in the late troubles their zeal carried them a few steps further—incur the loss of home, freedom, citizenship, nay, even life itself; yet, however their conduct may be viewed, no private or public act of violence can righteously be laid to their charge, for in the late national movement, the result not merely of an arbitrary impulse, but of the position into which the country had been brought by the course of events, they have throughout pursued an upright and straightforward course.' While freely acknowledging the political independence of the order, Uhland felt that his principles allowed him no other course.

This refusal occasioned Humboldt a disturbed night. He wrote at once to Illaire, a member of the Privy Council, requesting him for the present to withhold the document from the king's signature. He then proceeded to write to Uhland a masterly letter of its kind, urging him, if possible, to change his determination. Everything that could be said in favour of the liberal character of the order is skilfully adduced. The republican sentiments of Arago, and Melloni, 'the former resident of the Giunta Rivoluzionaria of Parma,' the withdrawal of Manzoni's refusal, the election of Thomas Moore, by whom the Holy Alliance had been so severely satirised, the

liberal form of election, whether by knights or academicians, the prospect of shortly including members from the free land of America, Humboldt's own 'unchangeable predilection for liberal institutions' evinced in his writings from the time of the first French Revolution, and his friendship with Forster—all this was vividly represented in the letter. Nor were the elegancies of a courteous flattery wanting in the appeal. 'Who,' he continued, 'could imagine that the trivialities of knighthood, or an elevation in rank, could possibly add lustre to a name so glorious as that of Ludwig Uhland, so widely honoured, so intimately connected with the struggle for freedom? Accede to my request; in many things in this life I have been successful. . . . Have I not some right to ask you to relieve me from the labyrinth of embarrassment in which I have been so undeservedly plunged? There is nothing for which I have greater admiration than the unflinching principle of a Cato, when exhibited in a worthy cause, whereby good may be effected; but the inconsiderate step from which I earnestly desire to warn you is of a very different character.' The same evening a third letter was despatched to Böckh, as 'a cry of distress over the embarrassment in which we are placed by the Cato-like humour of this obstinate member of a rump parliament.' 'If you only had felt this misgiving,' he continues, 'without an implied reproof, 'when you first made the suggestion, or when you saw me incurring ridicule by writing nearly a dozen canvassing letters to painters and musicians, or even when I was dissuading the king from listening to the insinuations of the ambassador from the court of Wurtemberg as to the dangerous political influence of our candidate. You and I, my dear friend, were only concerned about the opposition of the king; we had no conception that the person for whom we were thus exerting ourselves would place us in this dilemma. . . . I am writing to-night to Uhland, but I doubt if I shall have the same success with him as I had with Manzoni. I would urge you, my dear friend, to write yourself to him, the first thing in the morning. Unfortunately, the King of Bavaria has been instituting an order on the model of ours, to which he has nominated Uhland, and the nomination has been made public. In the meantime, should Uhland have publicly de-

clined the Bavarian order, all that I am doing will be futile. We must, at all events, keep this ridiculous comedy from coming before the world. . . . Let me have the letter back again. I have seldom met with anything more provoking. Had we only done as much for Fr. von Raumer, our labour would not have been in vain.'

The following day he wrote again to Böckh in a still bitterer tone—'The reactionary effect upon the king's mind is the more to be deplored, as on account of the anti-union disturbances of the *robes noires*, the liberal party were coming into favour. . . . Should Cato Tubingensis persist in his folly, how shall we be able to bring a new election before the king and the members of the order?' Uhland remained inflexible; by an official notification he had declined the Maximilian order, and had thus intentionally placed himself in a position which rendered it impossible for him to accept the honour bestowed upon him at Berlin. His letter of December 10, informing Humboldt of his determination, in which, while thanking him for 'his indefatigable kindness,' he assures him that it was through no fault of his that the affair got into the papers, concludes with these manly words:—'I am painfully conscious that it is less difficult to face injustice and disgrace than to decline a great and unexpected favour; but I am most oppressed by the thought that the most sincere thanks and the most respectful homage I can render to you, my honoured and revered friend, are powerless to indemnify you for the annoyance and perplexity you have endured through this most kind and self-sacrificing action.' The conduct of Uhland was designated by Humboldt as 'illogical,' as the order was perfectly free from all party spirit. He viewed the step he had taken with regard to the Bavarian order, however, as conclusive, and sought to place the affair before the king in this light:—'I have been obliged to inform the king,' he writes, 'of this virtuous decision, and have told him that friends of light are afraid of the Bavarian night owl, which, when I wear it of an evening, with the *wakeful* falcon, I find conducive to labour.' He endeavoured also to set the affair in this light before the world. 'The Cato-like infatuation of my light-loving friend Uhland,' he wrote soon afterwards to Dove, 'has caused me great inconvenience.

He took fright at the night owl, the insignia of the Maximilian order.' Quite unconscious of these witticisms, King Maximilian wrote an autograph letter to Humboldt on December 21:—'I hope soon to present you, as the hero of science in Germany, with the new order I have instituted in its honour: the decorations are very nearly completed. In your case I can say with truth—it is the man who honours the order. With the highest esteem, yours faithfully, Maximilian.'

It may perhaps have excited some surprise that so much space should have been allotted to the details of an affair apparently so trivial, but in reality this encounter between Humboldt, the 'Democratic Courtier,' and Uhland, the poet of the people, was highly illustrative of Humboldt's character. In passing judgment upon a tone of mind which refused to regard life—to use one of his favourite expressions—as an 'equalisation of conditions' which everyone had to regulate for himself, he could find no more suitable terms than 'Cato-like infatuation or folly.' Nor must it be forgotten that the institution of the Order of Merit occupied so large a portion of Humboldt's time and thoughts during the latter part of his life that, while he was best known intellectually as the Author of 'Cosmos,' his outward position and influence were most clearly represented through his official duties as chancellor of this order, which had been created especially on his account and formed the most appropriate decoration to his person. It was his opinion that the splendour of mental gifts, apart from the stimulating effects produced on other minds, should in this world of show be represented by some outward token of honour—an opinion from which he could not be moved by the persevering attacks of irony. He has often been designated the King of Science! and he was undoubtedly so in the sense of introducing into the sphere of intellectual life the distinctions valued by courtiers, though preserving a freedom from court trammels. That by so doing he was in danger of admitting an inferior motive as an incentive to scientific labour, such as had never before been usual in Germany, where science numbered so many distinguished votaries, was an idea he steadfastly refused to entertain. To obliterate the sad impression which Humboldt's conduct in this affair is likely to produce, we shall

exhibit, in contrast, his noble generosity, as evinced in the history of Eisenstein, in which he appears not only as a benevolent patron, but as one who laboured in secret for the good of others.

Gotthold Eisenstein,¹ of Jewish extraction, was the son of a small tradesman of Berlin, and in 1843, when but a youth of twenty, attracted the notice of Humboldt, by a treatise in Crell's 'Journal' exhibiting remarkable mathematical talent. Humboldt opened to him his house, and sought in every way to further his progress, not merely by his personal patronage, and the bestowment of pecuniary means, but through introductions to distinguished mathematicians. As early as May, 1844, he obtained for him from the king a yearly pension of 250 thalers; and on June 14, of the same year on the occasion of his undertaking a 'pilgrimage' to Göttingen out of veneration for Gauss, furnished him with a letter couched in terms of highest commendation. Gauss expressed himself in the warmest manner upon the remarkable gifts of Eisenstein, and shortly after his visit wrote to Humboldt:—'There are many papers written by this young man to which I should gladly put my name: pray assure the king that the youth is gifted with talents such as are possessed by few in a century.' These words were read by Humboldt with the greatest enthusiasm: but he thought within himself: 'So much good fortune never befell me in my youth as to be thus distinguished by Friedrich Gauss.' Nevertheless, 'he knew how to rejoice in the happiness of others;' he repeatedly invited Eisenstein to visit him both at Berlin and Potsdam, and when on one occasion he had exceeded his very moderate pension, Humboldt induced the king to make him an advance out of his privy purse. It lies not within our province to pass any opinion as to Eisenstein's moral character, suffice it to say, that it was by many viewed with suspicion: while in Humboldt, the 'illness and melancholy depression' of his *protégé* excited only the keenest sympathy. In the spring of 1846, Humboldt wrote to Gauss requesting him to support a proposition he was going to make to Eichhorn for a private grant to Eisenstein of 600 thalers. 'It will be one of the

¹ From various statements in Zimmermann's 'Humboldtbuch,' vol. ii. pp. 320, 327; vol. iii. p. 63; as well as from several unpublished letters.

greatest pleasures,' he wrote, 'for which I have ever had to thank you.' In July, he was informed by the king that for the present at least, a grant of 500 thalers had been agreed upon, and he admonished his young friend not to lose hope of its continuance, even if the grant should be limited to a few years. 'If you are but cheered by this news,' he adds, 'I do not doubt the continuance of your work with renewed energy. However your military drama may terminate, I will obtain your discharge from the Minister of War. You see that you are not deserted by all the world.' The genuineness of the feeling dictating these words is shown in the following letter of October 29, 1846, which, as an interesting proof of delicate sympathy, we give unabridged:—

'I cannot tell you, my dearest Eisenstein, how greatly I rejoice that you have so far mastered yourself as to come and see me once more, and pour out the feelings of your heart. This joy, I admit, is not unmingled with sadness. You are quite right in supposing that my affection for you is not grounded merely on the remarkable gifts with which you are endowed; my heart has been drawn to you by your gentle, amiable character, and by your proneness to melancholy, to which I would implore you, for Heaven's sake, not to give way. You must not continue to avoid all society; the idea that other people do not care for us should never be allowed to cross our minds. Pray come soon and see me, my dear Eisenstein. Notwithstanding my increasing age, I am sure that words of kind sympathy would cheer your desolate heart. Make an effort to pay me a visit once a week throughout the winter; I can always make time to see you. We must think of some means of diversion, and give distraction to your thoughts by presenting before you ideas with which you are unfamiliar, to which you are perhaps even averse (such as art treasures, the theatre, music, or the Botanic Gardens), whereby you may become incited to some light, but imperative occupation, the preparation of a new lecture. . . . I notice that you have so far yielded to the gratification of your melancholy, as to be quite dead to the outer world, or, in your letter of yesterday, you would not have omitted all allusion to the prospect of escaping from military service. The occupation of

lecturing would involve some regular work, would oblige you to fight against small difficulties, and would bring you into contact with young friends who would be glad to come and see you at other times than during the hours of instruction. I do not advise a sudden change of residence, for in fresh quarters you would only withdraw yourself more completely from the busy world around you. Your condition, dear Eisenstein, is only temporary—I have often met with dispositions of a similar character among my young friends—and it is only dangerous to those who have the weakness to encourage the malady, “by giving themselves up to the luxury of grief.” Choose an early day to pay me a visit, any time between eleven and two o’clock. I should indeed rejoice were my hearty sympathy in your sorrow—increased as I know it to be by attacks from your literary friends—to afford you any relief. I shall neither scold you, nor lead you to the display of any unmanly grief, I shall but let you feel how highly I prize your friendship.’

In the spring of 1847, Humboldt procured from the king by means ‘of an elaborate representation of Eisenstein’s remarkable talent so early developed, together with his indefatigable industry in the most difficult branches of analytical investigation,’ a second grant of 250 thalers to be paid for two years. In the kindest way he declined every expression of thanks, and consoled his *protégé* for the small sum, by remarking, that through Eichhorn it might easily be raised to 300 thalers, and at the expiration of the two years receive a further extension. ‘By that time,’ he adds, ‘I shall long have passed the limits prescribed to human existence, but I shall rejoice at having been able to give you this small token of friendship and esteem. Heaven grant that you may long retain that modesty of disposition and capacity for usefulness for which you have ever been distinguished, and add thereto that elasticity of spirits and cheerful view of the future so necessary to intellectual employment.’

In the course of the same year, Humboldt endeavoured to procure for Eisenstein a professorship at Heidelberg, seeing that ‘he found little employment among the mathematicians of Berlin.’ For this purpose he requested the youth to write out

a summary of his works, and though the task was accomplished with an incredible amount of assumption, his kind interest in the young man remained undiminished. 'Your letter,' he writes in a tone of fatherly rebuke, 'concludes with an expression which would exceedingly displease me, did I not believe that you meant it in jest: "From the qualities of mind exhibited in these formulæ I expect to become a second Newton!!" No one should speak thus of himself. Fortunately, the expression occurs in a letter to me. I shall write to-morrow to Carlsruhe, and shall certainly not speak of you as a Newton, since that would entirely destroy the effect of my letter.' While the negotiations for the professorship in the duchy of Baden were pending, it was thought imprudent to seek any increase of the royal pension. On August 12, he writes to Eisenstein:—'Early in April next, I shall forward to you fifty thalers from my own purse. Pray do not refuse me. Should you be fortunate enough to improve your position by an appointment in a foreign country, you will be immediately subjected to severe animadversion on account of the pension you now enjoy. It will be as well just now not to give fresh cause for censure. For this small amount trust to my assistance, and do not venture upon any step with the ministry.' In the meantime he was unsuccessful in his attempts to procure for his young friend a professorship at Heidelberg.

The following lines, dated March 10, 1848, give evidence that this promise was duly fulfilled by Humboldt, who, not content with using his powerful interest in endeavouring to secure employment in a foreign country for his necessitous friend, furnished him in the most delicate manner with pecuniary assistance out of his comparatively limited means:—'The last interview I had with you, my dear Eisenstein, was so brief that I did not think it a suitable opportunity to express my fears that you might possibly be in a position of pecuniary embarrassment. One would gladly secure a man of your talent from cares of this nature. It is not in my power to offer you more than a trifling assistance, but this I do with sincere pleasure. Should you be at home when this is delivered, please acknowledge the safe arrival of the remittance, but if not send me a line to-morrow by post.'

The reactionary movement succeeding to the Revolution degenerated into a 'pecuniary reaction' for all those who had become compromised by participating in the political events of that time. Jacobi and Massmann were brought under suspicion; and Eisenstein, on the ground of political intrigue, was deprived of the additional 200 thalers by which his pension appears to have been increased at the Easter of 1848, and was restricted in future to 300 thalers, 'notwithstanding the humiliating visits and letters to which Humboldt had condescended.' One of these letters, addressed to Johannes Schulze, we are able to insert; it is dated April 4, 1849, and was written when the pension was for a time wholly suspended. This characteristic epistle commences:—

'My esteemed friend,—The voice of a venerable friend which has been silent for many years is always a welcome sound. A slight indisposition, and the depression I feel at the present state of political affairs which occupy my attention incessantly, but unfortunately with no result, prevent me from coming to-day to see you; permit me therefore to recommend to your notice in the warmest manner the case of my friend Eisenstein, who is now in great poverty, notwithstanding his remarkable talents, which render him of extreme value in the world of science, and in attestation of this statement I unhesitatingly appeal to Gauss, Dirichlet, and Cauchy. His pension has been discontinued since the first of the month. I venture to implore your help if only out of regard for me, who am one of the oldest of those friends who can recall how much you have accomplished for intellectual freedom in momentous times of persecution. Is there a statesman now to compare with William von Humboldt? In these days of political ferment how contracted and mean are the views of all around us, and how readily do the evil disposed gain a hearing! With the highest esteem yours,

'A. VON HUMBOLDT.'

With all his efforts, Humboldt could not obtain more than a grant of the smaller sum of 300 thalers for that year, from the funds of the Departments of Public Instruction and Finance. His applications had proved unavailing, not only with the Academy, but with his friends Gauss and Dirichlet.

At his recommendation, Eisenstein wrote to Gauss to offer his congratulations upon the attainment of the jubilee of his degree of Doctor; while to Dirichlet, 'confiding in his generosity,' he forwarded a letter from Gauss in praise of Eisenstein. 'Your pupils are allowed to rank as equals,' he adds. 'Such is the way of the world, at least the intellectual world. How many have I known as children who have since surpassed me, and whose works will live when my fame has long passed away!'

The year 1850 was occupied with fresh efforts to give permanent support 'to the wretched precarious existence which Eisenstein dragged on from one Easter to another.' Jacobi had no sooner announced his intention of going to Vienna than Humboldt proposed that Eisenstein should succeed him in his professorship 'with a suitable salary,' and upon Jacobi's change of purpose, he made a similar application for the post of Dirksen. On the failure of both of these plans, there remained no other way but that of private assistance. The following undated note was written probably about this time:—'Your letter, my dear Eisenstein, has greatly distressed me, although it but confirms the evils I had anticipated. I shall take fresh steps with the minister Ladenberg, and learn from Dirichlet, with whom rests the distribution of the funds of the Academy. But this can bring no help either for to-day or to-morrow. You must be in want of some immediate assistance, and therefore pray do not decline a trifle from the hand of a friend. Promise to come and see me to-morrow, Thursday, at one o'clock, to receive fifty thalers, which I hope you will accept without any feeling of compunction.' Upon another occasion he writes:—'I have been thinking for some time past of the embarrassment in which you may have been placed by the dilatory procedure of the ministers. I have therefore set aside for you a hundred thalers, and implore you to feel no hesitation in accepting this trifling assistance.' While negotiating with Ladenberg, Humboldt discovered that one obstacle to his plans was 'political prejudice;' 'and since our constitutional freedom,' he sarcastically adds, 'has received but slight assistance by your co-operation, my efforts are subjected to this very unpleasant check.' He arranged with Ladenberg that

Eisenstein should address a courteous letter to the ministers, to which he would append some remarks in explanation of the charges brought against him, and give some assurance that his occupations were all of as 'unpolitical' a character as could be expected from the theory of numbers. By this manœuvre, and by the judicious circulation of an opinion recently expressed by Gauss that the 'talents of Eisenstein were of the highest order,' Humboldt was at length enabled to preserve the little that had been gained. It was no exaggeration when he wrote to Johannes Schulze:—'In such cases I am ready to take any step, however humiliating.'

The death of Jacobi in the spring of 1851 was the occasion of renewed efforts on the part of Humboldt for 'his poor friend Eisenstein.' 'The effect of a long and somewhat sad experience,' he wrote on February 20, to Johannes Schulze, 'has been to lead me to undertake alone any service imposed by science, and if failure awaits me, to renew my efforts with undiminished ardour. Amid the deep grief occasioned me by the loss of Jacobi . . . my thoughts have been turned to Eisenstein, who, with his mother'—Humboldt persistently ignored the fact that his father was still living and capable of earning a livelihood—'has in consequence of the withdrawal of the 200 thalers, but 300 thalers for his support, and is obliged to undertake instruction of the most elementary character.' He then proceeds to reiterate the flattering expressions made use of by Gauss in reference to his friend, adding, that of Gauss it might indeed be said with truth 'that he was slow to praise.' Eisenstein is to be classed with 'those productive geniuses like the Bernouilli in a town where minds of this order are more and more rare. I implore your aid, and confidently rely upon you. I am aware that Jacobi's salary was not drawn from the University'—it was derived from the funds of Königsberg—but I cling to the hope that some regard will be paid to the mathematical glory to which Berlin has laid claim for the past century.' While engaged in tedious negotiations with the new ministers, Raumer, who manifested a spirit of unfriendliness, and Bodelschwingh, who was wholly ignorant of science, he was cheered in the summer of 1851 by a prospect of two openings for his friend—one a professorship extraordinary at Halle, and

the other the election to the Academy of Sciences of Berlin. Humboldt gave the preference to Halle, on account of the advantages attached to the title of professor.

‘I will not complain, neither will I relax my exertions,’ he wrote to his young friend. He was distressed to see him working so hard as almost to endanger his health. In a letter dated August 9 he says:—‘Should you be too unwell to go out, my dear Eisenstein, pray write to me at once, and I will come and see you on Sunday between one and three o’clock. In your distressing circumstances even a trifling assistance may prove acceptable. My means being, as you are aware, but limited, I need not feel ashamed to offer you an insignificant gift as the expression of my warm sympathy. Early next week I can give you an order on Alexander Mendelssohn for a hundred thalers. With your noble intellectual gifts and high character, it cannot distress you that a friend is interested in your case, and is pressing in his assistance.’ Again was Humboldt doomed to disappointment, both as regards Halle and Berlin; and all that could be obtained from Raumer was the temporary assistance of a hundred thalers to pay the expenses of a visit to some baths. Full of complaints, he again sought the help of Gauss and Dirichlet. To the former he wrote:—‘The appointment to a professorship for which we have been so diligently seeking is still a thing in the future, owing to the icy coldness and ignorance of the present ministry in everything not connected with theology—in everything, that is to say, that has the misfortune to dispel darkness.’ And to Dirichlet he exclaims:—‘This poor Eisenstein is dying, and he is allowed to perish for lack of bread with the most scandalous indifference. . . . My remonstrances are ridiculed, and I am sent to Jericho!’ . . . These are strange times in which I am bidding good-bye to the world!’

In 1852 the last scene of this unfortunate tragedy was enacted. In February, Humboldt wrote to Johannes Schulze, and, while thanking him with some bitterness ‘for the extension of a miserable provisional assistance without a fixed position’—the pension had been raised to 400 thalers—continued:—‘This highly-gifted mathematician, whose activity has ever been on the increase, and whose fame has spread everywhere,

both at home and abroad, is yet leaving this world without the public acknowledgment and recognition of scientific men implied by the dignity of a professor's chair. My complaints are levelled against Government and public opinion ; to you I would repeat my thanks for your noble readiness ever to render help and protection to the distressed.' At length, in the following March, Eisenstein was unanimously elected a member of the Academy of Sciences of Berlin ; the previous year he had been chosen a member of the Royal Society of Göttingen, without, as Humboldt expressly assured Schulze, the exertion of his influence. The occasion gave him an opportunity to read his young friend a moral lesson upon this proof of his personal merit, and he remarked to him :—' There is nothing more certain in this world than the harvest to be reaped from intellectual labour.' His endeavours were next directed towards securing for his *protégé*, whom he describes, in April, as 'pale as death and on the high road to consumption,' the honour of corresponding member of the Institute. He requested Gauss, when an opportunity presented itself, 'to speak a good word for his young friend at that Capital of the West.' Before this scheme could be carried out, the sad event so long expected took place. Towards the end of July, Eisenstein was seized with violent hemorrhage, and conveyed to a hospital. In writing to Dirichlet on the 28th of the month, Humboldt remarks :—' I am sending him this evening, out of my limited means, a provisional gift of twenty gold Fredericks to help towards his nursing. I shall write a friendly and flattering letter to Herr von Raumer, which I shall scarcely regard as an effort if I can only be of use to Eisenstein.' A sojourn of a year in Sicily was recommended by the medical men as indispensable for the recovery of their patient. 'It may possibly be all in vain,' laments Humboldt in a letter to Johannes Schulze of August 3, while begging for further assistance, 'but it is worth while to make the effort for one whom Gauss describes as a mathematical genius, such as appear only once or twice in a century. In him was exhibited an active mind in a sickly body, a wonderful creative faculty with a life passed wholly amid sorrow.' Upon his return from a summer excursion with the king, Humboldt's 'first thought was naturally directed to Eisenstein.' He himself wrote to the Minister of

Finance, and to Dirichlet he announced that 'hitherto things have gone on in their natural course, but now at length the king must be induced to interfere. Alexander Mendelssohn has, in the frankest and most obliging manner, offered me a hundred thalers, should the journey be carried out. Do not mention this to Eisenstein; he would only expend the money here in an unnecessary manner, and three weeks ago, before I left home, I paid him a similar sum out of my own means.' In the meantime he received a consolatory letter from Johannes Schulze, and was able to acknowledge his kindness, on September 1, in the following delighted strain:—'How can I find words, my dear friend, to express to you my renewed thanks? I have just received from the Minister of Finance an autograph letter, couched in the most friendly terms, dated September 7, informing me that on the 27th, therefore before receiving my letter, he had given his sanction to a grant of 500 thalers to Dr. Eisenstein. As soon as I am sufficiently recovered I hope to wait upon the minister, to express in person my heartiest thanks. If only the young man can be saved!'

The sad tragedy was inevitable; in less than six weeks Eisenstein was no more. To the bereaved father Humboldt wrote on October 11:—'I have no words to express the sorrow I am experiencing. Both you and your dear wife are aware how sincerely I was attached to your highly-gifted son, who has been for years both to yourselves and to me an equal object of care. . . . I have written this evening to Herr von Bodelschwingh, the Minister of Finance, requesting that the sum destined for the living may be devoted to the exigences of the dead, and that the 500 thalers may be paid over to you to meet the expenses of the funeral, the outlay involved by his election, and the debts which had been set on one side in arranging for the cost of the journey. . . . In furnishing your son with so excellent an education, in your limited circumstances, you have accomplished no mean service to your generation.' But new difficulties were awaiting Humboldt. In writing shortly afterwards to Böckh he says:—'So at last I have buried Eisenstein, to whom, in spite of the humiliations to which for five years I have subjected myself, the title of Professor was never accorded, to whom the pension granted by the king in 1846

was never fully restored, and from whose necessitous family, who lose in him the sixth son of great promise, there is now a wish to withhold the miserable sum destined for the proposed journey. Such a ministry in the centre of intellectual life fills me with shame and disgust.' Notwithstanding three importunate letters and two visits from Humboldt, and the intercession of Costenoble and Olfers, Bodelschwingh could not be induced to accord more than 300 thalers, but 'the king, being anxious to do honour to the memory of the man who, though of distinguished fame, had been in life the object of no friendly treatment by the Minister for Public Instruction,' gave orders for the payment of the entire sum. On December 4, Humboldt wrote to the father of his poor friend:—'With these glad tidings pray receive the warmest assurance of the sincere esteem which you and your dear family have inspired in all who have had the privilege of your acquaintance.' To Gauss he writes thanking him 'in the name of humanity'—one thinks one hears Sarastro speak—for his beautiful letter of condolence, in which he exhibits the noble example of grand intellectual powers united to the tenderest and most affectionate feeling.

Truly a sad history, but one in every way honourable to Humboldt. As Gauss remarks in his touching letter of consolation to the father of Eisenstein:—'One of the most beautiful jewels in Humboldt's crown is the zeal with which he lends his assistance and encouragement to genius.' The self-denial and devotion he displayed in the fulfilment of this sacred duty are vividly portrayed in this narrative, which we have thought it desirable on this account to give in detail. The grandest feature to be remarked, however, is that the history of Eisenstein is only one out of many instances that might be adduced, commencing even from the time of his settlement at Paris. In the year 1809 he made the following generous offer to Voigt, a botanist in very straitened circumstances: '—As you will have to procure many things here, which it may not be convenient to you to pay for at once, I send you enclosed 1,000 francs, which you can return to me five or ten years hence,

¹ 'Ein Engländer über deutsches Geistesleben im ersten Drittel dieses Jahrhunderts. H. C. Robinson' (Weimar, 1871), pp. 273-305.

as may best suit you.' This generous spirit remained a characteristic till the close of life, when, 'like Proserpine, he was accustomed to knock at the house of the ministry of which Johannes Schulze kept the key,' in exemplification of his favourite proverb: 'It is not for man to slay where God has given life.' At Humboldt's funeral, the officiating clergyman remarked, in an appropriate address,¹ tinged unfortunately with dogmatism, 'From those who mourn him in secret might we hear many a testimony to his deeds of kindness; for his acts of benevolence were mostly carried out in secret, and he could not bear that any should draw aside the veil. Often have I come across instances of his kindly charity in the obscure paths of my ministerial work.' Numberless instances of such acts of kindness stand recorded in his voluminous correspondence. When viewed against such a background, his foibles appear but as the scoria formed upon the surface of molten metal beneath the influence of a chilling atmosphere, only to be quickly dissipated in the glow of a wide-spread and enthusiastic love of intellectual life, and the earnest devotion to the support of all that is ennobling.²

During the years 1845 and 1847 were published the first two volumes of 'Cosmos,' and before closing this chapter we deem it not inappropriate to enter upon a general discussion of that portion of the work, though without entering specifically upon the various scientific subjects treated of, or reverting to the question as to Humboldt's claim to be the originator of the theories advanced in the chapter on 'Outlines for a Description of the Physical Universe.' It will not be out of place, while giving a short account of the history of 'Cosmos,' to add a few words upon the essential principles of the work, the conception of the plan, and the style in which it is written. In discussing this most important of all Humboldt's productions, we propose to include his other literary efforts. A more distinct reference to the last volumes of 'Cosmos,' and the subjects of which they especially treat, must be reserved till the following chapter.

¹ Hoffmann's 'Reden am Sarge und am Grabe A. von Humboldt's' (Berlin, 1859), p. 8.

² The limits of this work forbid a detailed statement of even the instances in print of Humboldt's benevolence.

'I have conceived the mad notion of representing in a graphic and attractive manner the whole of the physical aspect of the universe in one work, which is to include all that is at present known of celestial and terrestrial phenomena, from the nature of a nebula down to the geography of the mosses clinging to a granite rock. With every grand and important idea must be given the facts upon which it rests. The work must represent an epoch in the intellectual development of mankind, in other words in the history of science. . . . In every specific branch of science detailed numerical results are to be given, as in Laplace's "Exposition du Système du Monde" . . . while the scope of the work is not to be confined to a *Description of Terrestrial Phenomena*, but is to include both the Heavens and the Earth—the Universe.'¹ In these few sentences, extracted from the programme communicated to Varnhagen in 1834, we have a graphic outline of 'Cosmos:' universal range of subject, knowledge derived only through phenomena, that is to say, experiment and induction, attempts at accuracy of detail, historic research, in an attractive literary form. With a combination of pride and modesty, the position allotted to the work is at once indicated: it is to represent an epoch in the history of science; as a scientific work of ephemeral value, but imperishable as an historic record. Were the plan of such a work really but the 'mad notion' of an individual to whom it suddenly occurred one beautiful October morning in the year 1834, we should have been obliged to confine our attention to watching the development of that plan during the eleven years that elapsed before the publication of the work, and to investigating how far it realised its bold pretensions. But we have already seen, and the author of 'Cosmos,' 'during the declining years of his eventful life,' emphatically declared that the plan of the work 'had floated in his mind, in an indefinite form, for more than half a century.' A literary production of this character, which has engrafted itself into the intellectual life of the present century, and for the compilation of which material had been gradually amassed during two generations, can only be fully appreciated when

¹ 'Briefe an Varnhagen,' No. 16.

viewed in connection with contemporary history, to which we now propose to direct attention.

Humboldt's first conception of the theory of 'Cosmos' dates from the close of the last century, when, as repeatedly mentioned in this biography,¹ he wrote to Pictet, in a letter dated January 24, 1796: 'I have been drawing up a scheme for a universal science;' and the vision of this work, 'the work of his life,' floated before his imagination as the goal of all his efforts. How much earlier the idea existed we have no means of ascertaining, but we shall endeavour to trace somewhat systematically the story of its birth. We can scarcely perhaps give a more forcible idea of 'Cosmos' than to say it originated at the close of the eighteenth century, and was first suggested to the mind of Humboldt under the influence of those gigantic minds forming the centre of the brilliant circle of Weimar and Jena.²

The eighteenth century was, especially towards its close, characterised, as is well known, by the spread of universal ideas. The idea of absolute universality was seized upon with youthful ardour by the leading minds, however independent might be the attitude they individually assumed. Immeasurable ideas, such as 'the Universe,' 'Mankind,' words which have since nearly lost their high sound, sank with irresistible power into all hearts, and even called forth tears when expressed in the exulting strains of Schiller's Hymn, or in the caricature, not wholly devoid of grandeur, of the 'Magic Flute,' where the priest-king thanks his brethren in the name of humanity for their encouraging sympathy. Faust, a creation pre-eminently of this age, dwells with delight upon the aspect of the intellectual world; the natural rights of man were the theme of Lafayette and the cry of the French Revolution. It was to be expected that in science, too, the tendency to generalisation should evince itself, especially as in no previous period of modern history had there ever been displayed so intimate a union of intellectual power with deep feeling, of scientific inquiry with keen sensibility. While the laws of nations were

¹ Vol. i. p. 197; vol. ii. p. 112.

² See vol. i. ch. iv.

being investigated by Montesquieu, and their morals satirised by Voltaire, Herder did not despair, from the analysis of national poetry, of securing a comprehensive view of the development and history of man. In such an atmosphere, the conception of a universal science was almost inevitable.

This science of physics, or of cosmology,¹ as we may term it, when speaking exclusively of Humboldt's undertaking, is to be carefully distinguished from the pure philosophy of nature, the physico-mathematical theory of the universe. If, in picturing the movements towards the generalisation of ideas characterising the last century, we failed to include philosophy, properly so called, it is because philosophy in all ages has a natural tendency to generalisation. The natural philosophy of Newton possessed a like tendency, but as a system could proceed no further than the limits proscribed to its deductions by the actual state of science. At the period of which we speak this philosophy found its representative in Kant, the last great exponent of the metaphysics of nature, by whose original speculations this philosophy was carried even beyond the principles advanced by Newton. With all his admiration for Kant,² Humboldt felt no more impelled than the rest of his generation to carry on the development of this—the highest order of philosophy; and although his mind, far from being of a speculative or mathematical turn, was mainly given to inductive reasoning, his expressions were often of a conclusive character. Nor had the time arrived for a more complete development of this philosophy; as the Newtonian theory had necessarily been preceded by an age of empirical investigation, so before the erection of a scheme of philosophy in which nature was to be revealed through a higher process of deduction, it was requisite that a suitable foundation should first be laid through a system of experiment and inductive reasoning prosecuted continuously for a series of years. It was during this preparatory period that the ideas brought out in '*Cosmos*' suggested themselves to Humboldt's mind:

¹ In support of the following deductions we refer our readers to '*Kosmos*,' vol. i. pp. 49-78; vol. ii. pp. 341-400, 400-520; vol. iii. pp. 3-34; vol. v. pp. 3-22.

² See particularly '*Kosmos*,' vol. v. pp. 7, 8.

it is only in the concluding part of that work, and then as if by some extraneous influence, that any traces appear of the modern theory of physics, which may be briefly described as the principle of the conservation of force. We shall defer to a future page our remarks upon the attitude assumed by Humboldt towards this new theory of modern times, which arose just as he was sinking into the grave; for the present let us return to the consideration of the first suggestions of 'Cosmos.'

If Humboldt's descriptions of the physical phenomena of the universe are not to be regarded as an interpretation of the laws of nature, nor an investigation into the connection existing between the causes of all phenomena, if his 'outlines' of this plan were not designed as a speculative philosophical inquiry, then the tendency to generalisation in the treatment of his subject must be ascribed merely to an impulse towards the ideal. The harmonising of all phenomena into one governing principle, in which no facts are admitted without absolute proof, and all subordinate classifications are rejected, is often improperly dignified by the name of 'philosophy,' even when forming part of a system based upon the ideal rather than upon reason. The so-called 'natural philosophy' of modern times, as, for instance, the system devised by Schelling, must also be regarded as an ideal conception of the universe, only that its ideal character is concealed by the scientific pretensions of its deductions, which, carried by Hegel to the verge of absurdity, essentially restricted the ideal form of the system, without substituting any genuine scientific principle. As beauty, in its details, appears subservient to no law, though displaying a complete harmony as a whole, so an ideal conception of the universe offers no contradiction to one of a rationalistic character; it rather points out its necessity, for as faith can only be strengthened by comprehension, so the ideal can expect from its intercourse with reason but to be guided, refined, and deepened, without fear of being extinguished, set aside, or annihilated. By reason of the inexhaustible nature of experience, the conception of the unity of nature will always contain an element purely ideal, however far we may have advanced in tracing the connection between the causes of

phenomena; the ideal conception of 'Cosmos' will, therefore, as such ever retain its value: in the same way as it has not suffered hitherto from the rapid strides made in modern physics and mathematics. The ideality of that immortal work will ever meet a want felt in the human mind, and, as we feel constrained to add, has ever satisfied that want. Humboldt has himself traced the history of 'the development of 'Cosmos,' from the time that the idea first floated before him as 'a dim consciousness of a unity in the midst of changing phenomena,' up to the period at which he was able to endow it with a definite form. In its ideal completeness, he is not the less to be regarded as its author, although in this very completeness he has to acknowledge the obligations he is under to many of his contemporaries.

In proof of this, we have but to call to mind the intimate communion he enjoyed in his earlier years with the most distinguished minds in the idealistic school of his country, one might almost say of his century. To avoid needless repetition,¹ we shall here refer merely to some expressions of Goethe and Herder, who, powerfully influenced by the teachings of Spinoza, were eagerly directing their genius to the comprehension of the unity of Nature in the midst of her multifarious phenomena. In the soliloquy of 'Faust,' published as a fragment in 1790, but composed much earlier, the universe is, with unmistakable clearness, depicted in the lofty poetic strains of that wonderful description of the 'Sign of the Macrocosm' as an harmonious whole, the several elements of which work together with sympathetic reciprocity. Nor is the purely ideal character of the conception unsupported by the truths of science less forcibly given in Faust's exclamation:²—

How grand a show! but, ah! a show alone.

Nature in her infinity appears to him incomprehensible. Even Herder had, in 1784, thrown out suggestions for a description of the physical aspect at least of our own globe, which, with the addition of astronomical facts, would naturally give rise to a description of the physical universe. At the

¹ See vol. i. ch. iv.—'Weimar and Jena,' pp. 161-210.

² 'Welch Schauspiel! aber ach, ein Schauspiel nur!'

close of the first book of his 'Suggestions for the Philosophy of the History of Mankind,' a work in which—apart from more recent discoveries—lay the germ of Ritter's science of geography, Herder expresses the desire that the valuable store of conclusions amassed by various travellers upon the subject of the physical constitution of the earth should be assembled under 'one comprehensive view.' It is very remarkable that, as a qualification for such a task, he should have insisted on the investigation of the 'mountain-chain of Peru;' from this, 'perhaps the most interesting portion of the world, where Nature exhibits her greatest marvels,' may we first expect to see 'brought into undoubted unity' the various phenomena which have hitherto been observed only as isolated facts.¹ It is remarkable that Humboldt, who usually delighted to recall the presages of poets and original thinkers, should never have called to mind this passage, when vaunting the Andes as the portion of the globe where 'Nature exhibits in the smallest space the greatest variety of phenomena.'² By these remarks it is by no means intended to lessen the value of Humboldt's achievement in the conception of 'Cosmos;' for however greatly he may be indebted to the inspiring influence of his contemporaries, the great merit of the work lies in what he alone has accomplished—the attempt, by means of a comprehensive collation of details, and the institution of the most searching comparisons, to give a scientific foundation to the ideal cosmology of Herder, Goethe, Schelling, and their disciples. In the accomplishment of this great task, Humboldt showed no sympathy with the extravagant poetic phantasies of that school; while with Goethe experiment was ever made subordinate to the intuitions of genius, while Herder was content only to hope and summon others to the field of action, and Schelling, in attempting to deduce specialities from generalities, found

¹ Attention has been directed to this remarkable passage by H. Böhmer, in his 'Geschichte der Entwicklung der naturwissenschaftlichen Weltanschauung in Deutschland' (Gotha, 1872), p. 28; a book which has only come before us while the present work was going through the press, and which in the estimate formed of Humboldt coincides in many points in the most gratifying manner with the opinions expressed in these pages.

² 'Kosmos,' vol. i. p. 12; see in the 'Ansichten der Natur,' and at the close of the 'Ideen zu einer Physiognomik der Gewächse.'

no better process than that of a deceptive phantasy, Humboldt even at that time stood among them, not, indeed, as the first, but as one of the earliest and most distinguished representatives of a school of experimental philosophy, which we justly designate as the experimental philosophy of the nineteenth century. In him may be said to be united the two schools of philosophy, so brilliantly represented during the closing years of the last century. On this account he was at the same time exposed to the censure of the representatives of either system. The well-known criticism of Schiller,¹ that 'the same susceptibility of temperament is needed for the contemplation of Nature in the most insignificant of her phenomena as in the grandest of her laws'—a criticism in harmony with the teachings of Goethe—is but the protest of the ideal system of intuitive thought of that age against the introduction of an earnest spirit of investigation, such as, if we except Lessing and Kant, was unknown to the eighteenth century, notwithstanding its great philosophers Voltaire, Montesquieu, Herder, and Goethe. The 'keen cold reason' condemned by Schiller, because it would 'have all nature shamelessly exposed to scrutiny,' has become the pride of the succeeding generation, among whom philosophers would be ashamed to employ a system of less rigorous investigation. Fourcroy, from whom Humboldt suffered a criticism directly opposed to that of Schiller, anticipated² the censure that has since been expressed by various distinguished mathematicians and physicists concerning the tendency to generalise evinced in 'Cosmos.' They noticed, with surprise, that Humboldt excused himself in the preface for having devoted several years almost exclusively to the study of individual branches of science; they forgot that this was an echo from the past century. Division of labour in the meantime had been adopted as a ruling principle in the world of science; thousands of industrious observers, each intent upon his own particular field of research, and looking neither to the right hand nor to the left, devoted themselves in the most painstaking and indefatigable manner to individual subjects of investigation. They were conscious that their strength

¹ See vol. i. p. 187, &c.

² Vol. i. p. 197.

lay in the concentration of their efforts; to them the ideal principle of comprehensive unity could appear but of little value. That such was not the opinion of all is proved, however, by many noted exceptions. On this point it is interesting to notice the expressions made use of so recently as 1854 by a man like Schelling, in whom the tone of mind characteristic of the eighteenth century had been preserved intact: it is of no importance for this purpose that the subject of his remarks is not 'Cosmos,' but the 'Examen critique,' in which Humboldt had asked his opinion on some passages relating to Columbus. 'After reading the first few pages of vol. iii.,' writes Schelling, on June 10, 'my interest became too excited to lay aside the book, and, abandoning all my usual occupations, I devoted myself, for a couple of days, to the irresistible attractions of your work. Were I to describe the impression produced upon me by its perusal, I should remark how much I have been struck by the thought of one who, after witnessing all that is most beautiful and wonderful in Nature, and seeing more of our globe than is privileged to many even in the present day, yet possesses so keen an appreciation of the value of truth, in its most insignificant form, as to take pleasure in the verification of facts of the most trifling description, such as bibliographical details or incidents in provincial history. Powers of this order appear so colossal to a mind of ordinary grasp, that it scarcely knows how far to retreat in order to gain a view of an intellect so comprehensive.'

A clear conception of the twofold nature of the plan contemplated in 'Cosmos' will greatly assist the reader in comprehending the magnitude of the work and tracing the history of its growth. The American journey must naturally be regarded as one of the most important preparatory events, the full significance of which lay in the combination of accurate individual observation with views of an extensive and comprehensive character. It is clear, therefore, that in the course of the succeeding sixty years, the centre of gravity, so to speak, of the growing work gradually shifted from the eighteenth into the nineteenth century. We have seen¹ the 'View of Nature

¹ See above, p. 112.

in *Tropical Regions*,' written while travelling in Peru and dedicated to Goethe, was regarded by Humboldt as the groundwork of 'Cosmos;' and the dedication to the poet is not less characteristic of the early stage of the work than is the preponderance of the ideal in the purely imaginative picture forming the frontispiece. In the lectures delivered by Humboldt on Physical Geography in 1827-8 he adopted a twofold course of treatment, according to the intellectual standpoint occupied by the different class of hearers he addressed: at the University, where the sympathy of his audience was in favour of the modern method of investigation, in contradistinction to the old philosophy fast growing obsolete, the time devoted to the consideration of individual sciences compared with that given to ideal generalisation was as five to one; while at the Music Hall, where his auditors had received their ideas purely from literature, this proportion was reversed. Both these methods occupied at that time an equal share of Humboldt's attention, although his preference was decidedly given to that part of his undertaking in which facts were arranged under general principles—a task which he confessed to Varnhagen, in 1834, to be the chief object of his work, and in which he doubtless displayed the greatest originality. The specific portion consists mainly in the results obtained by a younger generation; the gradual expansion of the work from one to two volumes, and again into a third, is a powerful witness to the increasing subjugation by modern science of the old aspiration after an ideal conception. The appearance of the third volume of 'Cosmos' was at once felt by the public to destroy the unity of the work, and to be in fact the commencement of an undertaking of an entirely different character. We shall therefore confine our observations for the present to the first two volumes published during the period we are now describing, and which recur at once to the mind at the mention of 'Cosmos.'

The admirable table of contents prefixed to these volumes, of which Humboldt once facetiously remarked that it was drawn up for the greater convenience of finding out what was not in them, affords valuable assistance in examining the construction of the work, and clearly reveals the two elements we have pointed out in the history of its compilation. These

are apparent even in the first chapter, 'On the pleasurable Emotions excited by the Contemplation of Nature and the Study of her Laws, with Remarks upon the Limits prescribed to a Scientific Delineation of the Physical Phenomena of the Universe.' Nature is viewed first as a source of pleasure in her effects upon the æsthetic feelings; and, secondly, as a source of knowledge in her effect upon the mind: the design is to show that the one need not interfere with the other, and that it is possible to create a physical science which shall satisfy the cravings of the intellect and at the same time gratify the soul's longing for the beautiful. The 'Survey of Nature'—the description of Physical Phenomena—is the result of an endeavour to call into existence such a science. In these pages both elements are united, the details of scientific investigation being arranged and subordinated to the requirements of the ideal; superfluous detail not easily arranged according to this plan finds place in the notes, which, besides 'some facts scarcely within the compass of general knowledge,'¹ contain information of a specific character, so as occasionally to intrench upon the contents of the concluding volumes. The idea is indeed suggested that these later volumes, had not the material been so voluminous, might have been compressed into the notes to the 'Survey of Nature:' the work would undoubtedly have gained in unity of design.

The objective representation of physical phenomena in the first volume is confronted in the second volume by the subjective apprehension of Nature as reflected in the human mind; this reflection also shows a twofold aspect, whether seen projected on to the imaginative faculties or on to the reasoning powers. As a prelude to the 'History of the Rise and Progress of Science,' the second volume opens with a description of the enjoyment to be derived from Nature in a chapter bearing the non-distinctive title of 'Incitements to the Study of Nature,' as evinced in poetic descriptions of scenery, landscape painting, and the pleasurable occupation of gardening. The whole of the second volume is devoted to the history of the rise and progress of science, both in its ideal and didactic form—a definition of which had been given in the introduction to the first volume and a fuller development in the 'Survey of Nature.'

¹ 'Briefe an Varnhagen,' p. 91.

The leading ideas of the general plan, as pointed out in the above sketch, are not only explanatory of that portion of 'Cosmos' published during the years 1845-7, but formed a guide to the author, both with respect to the character and compass of the entire work. In writing to Varnhagen in 1834, Humboldt states:¹—'A book upon Nature should arouse impressions similar to those she herself awakens; that is to say, should yield at the same time æsthetic pleasure and intellectual gratification, should appeal to the imagination and awaken thought, should be in fact as truly a work of art as a production of science. That Humboldt's meaning is thus to be interpreted, appears from the following passage in a subsequent letter to Varnhagen, dated April 28, 1841:²—'With the simplest statements of scientific facts there must ever mingle a certain eloquence. Nature herself is sublimely eloquent. The stars as they sparkle in the firmament fill us with delight and ecstasy, and yet they all move in orbits marked out with mathematical precision.' With the trifling exception of some corrections in style, effected by his friends Varnhagen and Böckh, the æsthetic portion of the work is entirely to be ascribed to Humboldt, especially in everything relating to the composition. He bestowed no less pains upon the diction and composition of the work than upon the collection, sifting, and verification of the scientific material in which he found so many willing and able coadjutors. We propose directing our attention, in the first place, to the work in its literary aspect.

In the 'Aspects of Nature'³ Humboldt had experienced 'the difficulty of combining literary excellence with the highest requirements of science, of pleasing the imagination while communicating knowledge, and of arranging subordinate parts so as not to destroy unity.' Of the 'Examen critique,' a work almost exclusively scientific, and on that account perhaps to be ranked as his best, Humboldt wrote the following severe criticism upon its literary merits to Letronne on December 26, 1837:⁴—'You might have stated with greater emphasis

¹ 'Briefe an Varnhagen,' No. 10.

² Ibid. No. 54.

³ Preface to the second and third editions.

⁴ De la Roquette, vol. i. p. 153.

that it is one of the worst edited books in the German language, and that is saying a good deal; I am quite aware of it, and I feel it as much as you can do, my dear friend; I think that my work, *rudis indigestaque moles, monstrum cui lumen ademptum*, contains much that is altogether new, that the erudition is select and not commonplace, and that it receives a character of its own from the combination of physical science with historical research; but alas! the absence of chapters is a source of terrible *ennui* to the reader, and in those interminable sections a little vivacity of style is not sufficient to give coherency to passages of a fragmentary character. My style, unfortunately, is very wearisome.' This unpleasant example of his own composition served as a perpetual warning in the compilation of 'Cosmos,' and with ineffable labour he sought to avoid 'all those cliffs which,' as he modestly remarked in the preface, 'he knew only how to point out.' In a work comprising so extensive a range of subjects, it is not unusual in the preface to refer to the difficulty of arranging the materials at command, but scarcely any other book furnishes an instance of such reiterated allusions to the aim of the author, the mode of treatment, the limitation of subject, and the deficiencies in the execution of the whole plan, and rarely is the attention of the reader so constantly diverted from the work itself to the consideration of the aim and purpose of the author. In an undertaking which, in so many points of view, might be regarded as the first of its kind, being the outline of a new science, it is only natural that attention should be occasionally directed to the author and the purposes before him in the plan of the work; but no unprejudiced reader can be blind to the fact that observations of this character are of much too frequent occurrence in 'Cosmos;' frequently, for example, facts are brought into notice in the text that were not to be expected from the new science, or at least not at that day. This may be received as evidence of the tedious and exceedingly careful composition of the work; for when Humboldt spoke of 'Cosmos' as 'ill-considered,' he could only have used that term in reference to the uncertainty he felt of being spared to complete the task, as in point of fact there never was a work composed with so much painstaking care. In his

anxiety to secure the right appreciation of his undertaking, he was not content merely with the elucidations contained in the book itself, but, as the various portions of the work appeared, would write explanatory letters to his friends, full of valuable comments upon the subject.

'My chief object,' he writes to Varnhagen on April 28, 1841,¹ 'is to take a survey of the extent of our knowledge in this year of 1841.' This was principally effected in the 'Survey of Nature' in the first volume, where all phenomena are condensed into well-arranged groups, so as to present the reader with a comprehensive glance, a bird's-eye view, as it were, of the facts that science has revealed. In a letter to Böckh of December 25, 1845, Humboldt expressly gives it as the whole secret of his work, that the individual results in various branches of scientific investigation are suppressed in the 'Survey of Nature,' and reserved for the succeeding volumes: 'Were these facts to be interwoven into the "Survey of Nature," that portion of the work would lose all impression of unity, and would cease to have the effect of a rapid and animating glance.' The plan thus contemplated of 'hovering over the field of knowledge'²—to use his own oft-repeated expression—was only partially accomplished; for an uninterrupted series of generalisations would have lessened the vividness of the picture by destroying all individuality. The introduction of a few well-chosen facts was necessary to prevent the unity of the whole degenerating into uniformity, and to lend force to the generalisations which tend naturally to tameness and insipidity. These views were once expressed by Humboldt in writing to Encke upon the 'Survey of Nature':—'Details have purposely been interwoven with generalisations, in order to excite the interest and lay a *firm foundation* for the position of the observer.' In other words—to revert to a former simile—the bird's-eye view should not be taken at such a height that everything seems reduced to a monotonous grey-green surface, but prominent objects, like hills and towers, should stand out in their individuality, so as to produce the impression that the moving panorama is based upon solid

¹ 'Briefe an Varnhagen,' No. 54.

² Ibid. No. 10.

reality, concerning which much has been learnt, though much remains to be discovered. It is evident that the arrangement of these points of view was much more a matter of literary taste than of scientific requirement. Humboldt endeavoured to compensate the blemishes thus occasioned in a scientific point of view by the arrangement of the second part of the work, devoted to individual branches of science, in the treatment of which the plan of his undertaking allowed him greater liberty. He further remarks to Encke, 'that facts that have appeared in the introductory chapters, especially the "Survey of Nature," whether in the text or in the notes, will not be repeated in the body of the work, but only elucidated or given in greater detail. The *capita rerum* must all be introduced, but no attempt ought to be made to represent each subject with uniform completeness, for the character of the work and of the mode of treatment is that of an essay. On literary grounds, to sustain the liveliness of the style and the flow of ideas, all that might appear dry and irrelevant will, as in the "Aspects of Nature," be inserted in the notes.' The compound nature of the work, half literary, half scientific, could not be more clearly expressed; and it is evident from these admissions that, should they come into collision, the author would allow the claims of literature to take precedence. If, after unwearied struggles, the result was not entirely satisfactory, he could console himself with its subjective aspect by the thought that 'the book would be a reflection of himself, as he had passed through life and attained extreme old age.' 'This freedom in the method of treatment,' he adds,¹ 'allows of an aphoristic mode of expression, by which much may be indicated that is not explained. There will of course be much that can only be understood by those who are intimately acquainted with particular branches of natural science; at the same time, I have endeavoured so to express myself, that there shall be nothing to perplex those whose knowledge is more limited.' With regard to the want of method shown in the selection of quotations, a defect to which his attention had been drawn with most deferential politeness by Bessel, he thus defended himself to Encke, in

¹ 'Briefe an Varnhagen,' No. 54.

the letter quoted above :—‘As this is the last book I intend to write, I have introduced many things into the notes which I thought were of value, and which would otherwise perhaps have been lost. I do not attempt to defend myself from the accusation that I have shown some amount of partiality in the authorities I have adduced. I am not averse to the subjective being prominent; after my death my papers will show among whom I have lived, and by whom I have been influenced. Of this I have no reason to be ashamed.’

The compilation of the second volume doubtless presented fewer difficulties than the ‘Survey of Nature,’ inasmuch as historical material naturally arranges itself according to the order of date; events are generally grouped in periods, and the degree of importance to be attached to any event is naturally to be estimated by the results to which it gave rise, so that to make a judicious selection of facts is far easier than to estimate the relative value of natural phenomena. On this portion of the work, however, Humboldt bestowed no small labour; throughout the ‘History of the Rise and Progress of Science’ a careful distinction has been made between the ‘events of greatest importance,’ reserved for the text, and facts of lesser moment given in the notes. In the opening chapters of the second volume, moreover, where the subject, ‘Incitements to the Study of Nature,’ is of an æsthetic character, a greater finish of style was requisite. No wonder therefore that, in a letter to Böckh, Humboldt asserts that in the chapter upon the poetic description of nature he ‘has devoted every possible care upon the composition;’ while to Varnhagen¹ he confesses that it is a chapter of which ‘he is very proud.’ In referring to the chapters upon the Picturesque, and the Cultivation of Exotic Plants, he remarks, with greater modesty :—‘I have endeavoured by artistic treatment to master the profusion of material, but there is a wide step between striving and succeeding.’ ‘I think,’ he writes upon another occasion, ‘that the second part ought to prove interesting from the wealth of material, the attempt at accuracy, and the adaptability to every grade of mental culture.’ This expectation, as is well known,

¹ ‘Briefe an Varnhagen,’ No. 54.

did not prove ill-founded; the second volume has enjoyed a wider and more enduring popularity than the first—if we except the masterly introduction—but the explanation of this is only partly to be found in its adaptability to every ‘grade of mental culture.’ For, setting aside the later volumes, it undoubtedly possesses this essential advantage over the ‘Survey of Nature,’ that from the historical nature of the subject it remains unaffected by the march of scientific discovery; and ‘while the bird’s-eye view of human knowledge in 1841’ cannot fail to lose in interest as the boundaries of our knowledge widen, and much that was held to be true then has since been proved to be erroneous, the ‘History of the Rise and Progress of Science,’ compiled in 1847, grounded as it is upon the most extensive critical investigations, will remain for all time of undiminished value. It possesses, together with the chapter on the ‘Effect produced upon the imagination by the Physical Universe,’ the further advantage of being written in a style in which the subject and the treatment are in pleasing harmony. No one will be disposed to censure Humboldt for endeavouring to secure, even in descriptions of phenomena, ‘vigour of style, beauty of diction, and grace of composition;’ this was almost a necessary consequence of the effort to attain unity and comprehensiveness of view. But when he defines the charm of composition to consist in the ‘conversion of technical terms into the graphic and suggestive expressions of well-chosen language,’¹ the fear is naturally suggested lest in so doing, clearness and precision should be sacrificed, for the sake of which the terms employed in science were originally devised. The evil effects of this principle are in fact discernible in the ‘Survey of Nature,’ in which the selection of graphic expressions has not always been fortunate, so that one is occasionally reminded of Humboldt’s frank confession to Böckh:—‘I am endeavouring to introduce into “Cosmos,” on which I am at present engaged, many graces of style and poetic allusions.’ This tendency is not very obvious in the chapter on the ‘Poetical Description of Nature,’ as when poetry is the subject, poetic modes of expression are admissible; nor does it offend in the ‘History of

¹ ‘Briefe an Varnhagen,’ No. 54.

the *Rise and Progress of Science*, where a poetic diction seems only appropriate in describing the flights of human intelligence. The *'Survey of Nature'*, on the contrary, produces the impression in those parts where the composition 'is overladen with graces of style and poetic allusions' of having first taken form as a poetic and not a scientific description of nature. In concluding this review of the first two volumes of *'Cosmos'*, as a literary work, it will not be inappropriate to bring under consideration Humboldt's claims as a writer.

The 'main faults of his style,' of which he was himself aware, consisted, as he confessed to Varnhagen in 'an unfortunate predilection for poetic modes of expression, a too frequent use of participles and adjectives, and a too great concentration of a multiplicity of thoughts and feelings in one sentence.'¹ This defect was not so exclusively due as he imagined to his 'peculiarity of temperament;' the 'unfortunate predilection for poetic modes of expression' was characteristic of the age in which his early years were passed, and was shared by most of the contemporaries of his youthful days. At the period when Weimar was in its glory, poetry exercised an influence so overwhelming throughout Germany, that even those who had no poetic muse felt constrained to express their homage, some in poetic prose, others in prosaic poetry, while not a few—including a genius as powerful as that of Herder—made use of both forms of composition. In the case of William von Humboldt, it is doubtless to be ascribed to his poems, to which, notwithstanding their philosophy, no very high position can be accorded, that he was enabled to preserve his scientific writings untainted by the poetic influence of the age. In his prose writings there is much that is laboured and stiff, in contrast with his prototype Schiller, but his style is never inflated or fantastic. Unlike his brother, Alexander never attempted poetry, for even in the *'Genius of Rhodes'* the garb of phantasy scarce serves to cover the didactic nature of the essay; in his case Goethe's criticism upon Lord Byron was almost applicable, that the poetry he suppressed revenged itself upon his prose. This style first began to appear antiquated

¹ *'Briefe an Varnhagen,'* No. 16.

between the years 1800 and 1810: from George Forster, by whom Humboldt was powerfully influenced in early life, a highly poetic prose was to be expected; Schleiermacher seems to have recognised at once the change in public feeling, and in 1810 apologised for the poetic garb of his discourses, published ten years previously, as being in 'sympathy, not with the present day, but with a period now past.' But Alexander von Humboldt continued to cherish as his ideal the style he had learnt to admire at the close of the last century; for, in 1849, he still regarded as his 'favourite work,'¹ the 'Aspects of Nature,' a book which had been written more than forty years: 'Cosmos,' was ever associated in his mind with the extravagance of feeling and exaggeration of expression characteristic of the period in which it first took form.

After all, the phrase 'an unfortunate predilection for poetic forms of expression' is but of a vague character. It is possible to infuse a poetic fire into language which shall in no way interrupt its customary flow; as an example, we have but to adduce the 'Letters from Switzerland' or the 'Travels in Italy,' by Goethe. In these charming compositions the most inspiring and graceful flow of language falls harmoniously on the ear without any expression that could justify the term poetic prose, much more truly is it the genuine prose of a true poet. If, for the sake of comparison, we place by the side of these works the celebrated description of the cataracts of the Orinoco, from the 'Aspects of Nature,' how laboured and massive it appears; what an attempt at grandeur in the flow of the diction! The reader is tormented, at the same time, by a feeling of a want, and oppressed with a sense of superfluity; his poetic sentiments are excited without being gratified, while invited to soar into the realm of imagination he is painfully chained to the earth from which he is not allowed to rise. The striking difference in style between Goethe and Humboldt will be found to consist mainly, that whereas Goethe accomplishes everything by means of the verb—that 'life-giving, controlling, and directing power,' as he once termed it—Humboldt relies mainly on the adjective. This habit was no doubt acquired during his early scientific

¹ 'Briefe an Varnhagen,' No. 136.

studies, when for many years he was engaged in botanical classifications, and the description and registration of phenomena; by this means he became accustomed to view natural objects as inanimate forms of existence. How often in 'Cosmos' does he not repeat the assertion that of the processes of formation, the true essence of existence, we know nothing! By the true poet, however, this is divined by instinct; he unconsciously invests the inanimate with the life it once had, while the observation of the investigator never strays beyond the facts apparent at the moment; in a true poetic description expended forces are represented as still in action: attention is directed neither to the 'greenness' of the leaf, nor yet to the 'gold' of the orange, but both seem to spring into life as we are called to notice how they 'glow.' In the descriptive passage by Humboldt, 'Thousands of insects shed their rosy phosphoric light over the soft carpeted earth,' how completely is the power of the verb destroyed by the oppressive load of adjectives!

It will be admitted that this peculiarity of Humboldt's style deserves far more to be called rhetorical than poetic. It is just in the kind of minute portraiture denied to the true poet in the 'Laokoon' that Humboldt felt most at home; where circumstantial descriptions are called for he never provokes censure, but the continuation of such a mannerism cannot fail to become wearisome to the reader. We have already cited the passage where Humboldt confessed to be in search of 'graphic and suggestive expressions;' in another place he admits that 'the skilful employment of a language, so rich in its descriptive terms and so remarkable for its flexibility and harmonising power,' was with him an object only secondary to the claims of 'composition- the masterly arrangement of carefully constructed members of sentences.'¹ To the care he bestowed upon the choice of terms, he himself attributed in great part the success of 'Cosmos.' 'How is one to account,' he modestly inquires, 'for the unexpected success of "Cosmos"?' It is to be attributed, in part, to the ideas it suggests, and to the flexibility of the German language, which renders it so easy to embody an idea and paint a picture in words.'² He was himself so little

¹ 'Briefe an Varnhagen,' No. 120.

² Ibid. No. 103.

conscious of the actual nature of these word-pictures, that he regarded it as an evidence of diversity in national temperament, when in Germany his prose was censured as 'too poetic,' and in England as 'dull and laboured,'¹ whereas, in point of fact, both criticisms were equally true. 'A vivid description' will never be obtained by an exaggerated use of adjectives. Another chief cause of the 'laboured' effects of Humboldt's style lies in his second characteristic fault—a necessary consequence, indeed, of the preceding one—namely, the too free use of participles. For so far did he carry the habit of regarding the momentary aspect of an object as something inherent, that he often encumbered the subordinate members of a sentence, and almost annihilated the power of the verb, by the superabundant use of qualifications formed out of the participle—a peculiarity exceedingly ungraceful in the German language. It is possible that this vicious habit was much increased by the exclusive use, for many years, of the Romanesque idiom, especially of the French language.

To the same source may also be traced the third peculiarity, justly pointed out by Humboldt as one of his faults of style, 'a too great concentration of a multiplicity of thoughts and feelings in one sentence.' With those who lay the whole force of speech in the verb, who, with the savage in his simple utterances, or the genuine poet in his soul-stirring eloquence, think out the sentence in its totality, ere a word be uttered, the verb forms the centre of thought, round which the subordinate members of the sentence naturally group themselves. Epithets, on the contrary, may be mechanically inserted in the manner of a mosaic; and in many of Humboldt's periods, ponderous in their weight of ornament, there is too frequent evidence of such a process. To use perhaps a better simile, he often painted in the whole of his picture before laying on the final layer of colour during his tedious process of finishing; in some places it is evident where the high lights have been put in at the last. He was quite aware that he carried this process too far. In a letter to Böckh, for whom he 'had great veneration as an elegant writer,' he once remarked:—'You possess the very

¹ 'Briefe an Varnhagen,' No. 105; 'Briefe an Bunsen,' No. 44.

quality in which I am entirely deficient, the power of adapting the depth of colour to the nature of the subject.'

For these reasons Alexander von Humboldt cannot be ranked among the great writers of Germany. No one perhaps had a higher idea of the power of language, and no one strove more earnestly to secure 'propriety and freedom of speech,'¹ or 'grace and euphony of diction;' but the fact of such an effort being necessary proves him to have been no master in the art of language, and to have had no natural gifts of authorship. Those who have acquired the reputation of great writers, however readily they may adapt their language to the multifarious subjects presented before them throughout a long life, have yet a style of their own, the expression of their intellectual individuality. Humboldt, however, as he facetiously remarked of himself, had as 'many manners' as Raphael. In treating of purely scientific subjects, his style is simple and appropriate, never, it is true, either easy or graceful, but free from all oppressive encumbrances. In the notes to 'Cosmos,' and the 'Aspects of Nature,' in the papers read before the Academy, constituting the 'Miscellaneous Writings,' or the admirable prospectus of the 'Géographie des Plantes' in the 'Hertha'²—everywhere the narrative parts are well expressed, and the elucidations clear; it may doubtless be esteemed as a commendation that in these instances the style is almost forgotten in the richness and variety of the contents. It cannot but be regretted that Humboldt ever allowed himself to depart from the simplicity of his scientific writings. But it was his ambition to produce works of literary merit which should be prized as much for the beauty of their diction as for their scientific value. This he has attempted in the 'Aspects of Nature,' especially in the older portions, in the 'View of Nature in Tropical Regions,' dedicated to Goethe, in the text of the first and second volumes of 'Cosmos,' and in various public addresses, inscriptions in albums, and other short pieces. In these works 'his chief aim was to preserve nobility of expression;'³ yet the attempt to

¹ 'Kosmos,' vol. i. p. 4.

² Vol. vii. pp. 52-60. Also 'Briefwechsel mit Berghaus,' vol. i. p. 64, &c.

³ 'Briefe an Varnhagen,' p. 62.

sustain an elevated style frequently led him into a theatrical mannerism.

We have already seen that in those works in which Humboldt thought it necessary to strive after an elegant and flowing diction—even when merely short rhetorical compositions—he never committed them to publication with an easy heart until he had passed them under the critical revision of a friend. In concluding the Introduction to the last volume of ‘Cosmos,’ scarcely a year before his death, he remarks:—‘In the various languages in which I have had occasion to write during my long life, I have always been in the habit of submitting the manuscript, ere it went to press, to the revision of some judicious friend; for the tone of colouring, if of a vivid character, should by no means be the same in a simple description of Nature in her outward garb and in a picture of Nature as seen reflected in the human mind. The requirements of poetic prose demand, however, that this line be variously drawn, according to the distinctions of nationality and language. The due appreciation of the force of expressions is only *possible* when employing one’s native language, in the use of which instinct becomes an unconscious but sure guide. The acknowledgment of this *possibility* is, however, far removed from an arrogant belief in its *successful accomplishment*. These remarks are intended only to indicate the painstaking endeavour to bring into prominence by perfection of form the intimate connection between parts of a scientific and purely literary work, and to point out a mode of treatment in which literary excellence may be secured without any diminution in scientific value.’

A remarkable confession, in which more meaning is conveyed than was perhaps intended. For if the style of an author be the result of unconscious instinct—as will be universally admitted—it is certain that no great writer can be always in need of consulting the delicate perceptions of others. An inexperienced artist acts wisely in submitting to the criticism of a master in the art; but if in the practice of his calling he never attains a feeling of self-reliance, he proves himself to be but a dilettante; and ‘the most painstaking endeavour after perfection of form’ can afford no compensation for any

failure in the ingenious embodiment of his conception. To many of our readers this censure may seem unnecessarily severe, in view of the sensation created throughout Germany by the 'Aspects of Nature' and the first two volumes of 'Cosmos.' It must be borne in mind that, in conformity with Humboldt's own custom, we have brought his literary productions in comparison with the grandest creations of the most distinguished writers of Germany. It cannot be denied either that where he has set himself to the task, he has succeeded by means of strenuous exertions in producing striking effects of language; though, for the most part, as he himself admits, of a character that appeals most forcibly to the 'sentimentality and fantastic imagination of youth.'¹ The pompous diction of the 'Aspects of Nature' and of 'Cosmos,' noticeable also in the early works of Schiller, possesses a powerful charm for uncultivated natures and for those whose tastes have not outgrown the immaturity of youth.

For a full justification of this opinion, we have but to appeal to Humboldt's letters; for in letters the character of an author is revealed in its natural simplicity, of which we have an example in those of the great classic writers Goethe and Lessing. Humboldt's letters differ greatly in character. A great number of them are written in the same lofty strain as his works, and, composed no doubt under the impression that they would eventually be published, were penned, not exactly before the glass, but in an assumed mental posture. Others are exclusively of a scientific character, and in composition may be classed with his more important writings; but in neither of these styles does there exist a genuine type of a letter, exhibiting the free and unrestrained expression of a one-sided conversation. Examples of this description, however, are by no means wanting among the notes and letters he was daily in the habit of writing, but in most of them the style is far from being agreeable. The virtuoso, so brilliant in conversation, was quite unable to commit to paper the same easy flow of unconstrained converse: perhaps the pen refused to obey his summons with sufficient readiness, for it is well known that from the injury to his arm he

¹ 'Cosmos,' vol. i. Preface, p. ix.

was somewhat crippled. His custom was to throw on paper an outline, as it were, of the principal topics of conversation—ideas, witticisms, quotations, allusions, and exclamations; while he failed to add the flowing diction by which the whole should be connected. It seems as if, as soon as he sat down to write, a feeling of constraint and formality passed over him; of the freedom and elegance of expression so remarkable in his conversation there is scarcely a trace. The construction of his sentences is remarkably clumsy; ideas as they occur to him are hastily introduced by means of inelegant participles into the overlaid sentence: he once facetiously commented on a phrase of this kind by writing on the margin: ‘A sentence like a Warsaw dressing-gown, with forty pockets of parentheses!’ His letters possess mostly a double nature, and resemble a centaur, only in the inverse order, for the first half goes upon horseback prancing upon high sounding epithets, while the latter half walks in the most prosaic manner, as if the writer’s power had suddenly become exhausted. Nevertheless, it is not to be supposed that his letters are not worth reading; they bear without doubt the impression of a great and remarkable mind, but unfortunately, from the unyielding nature of the material, the impress is neither accurate nor beautiful.

To a mind like Humboldt’s there is no doubt that the French language offered a material of a more suitable character for the reception of his ideas. It is not to be supposed that all Frenchmen would go so far with the editors of the second volume of De la Roquette’s correspondence, in their recognition of the French tone of mind characterising Humboldt, as to sympathise with the exclamation: ‘Never indeed was there a mind more truly French, more overflowing with generous sentiments, and delicate satire;’¹ but as a writer he would be classed with French authors with less hesitation even than Frederick the Great; his books of travel were placed side by side with those of Lamartine and Chateaubriand, while his scientific works were classed with those of Arago and his associates. Humboldt himself confesses that the descriptions of nature by Bernardin de Saint-Pierre proved to him a more

¹ De la Roquette, vol. ii. ‘Avert. des nouveaux éditeurs,’ p. ii.

useful model than those of Forster; 'Paul and Virginia' was his companion in the Tropics, where he and Bonpland used to peruse together this 'masterly production which scarce finds its representative in any other literature;' again and again were they deeply impressed with the 'admirable and inimitable truth' of the descriptions.¹ It was invariably Humboldt's aim, and he was conscious that on this account 'his style differed considerably from that of Forster and Chateaubriand,' 'to be *true*, even scientifically true in his descriptions of nature, without actually entering on the dry region of science.'² It may possibly be a delusion, but to the writer of these pages it appears that in many portions of the 'Aspects of Nature,' especially in those poetic passages which recall so emphatically the tone of Rousseau and the spirit of the classics, there lies, beneath the full harmony of the German language, a concealed though perceptible under-current of French thought and mode of expression. However this may be, there can be no doubt that the works exhibiting the smoothest flow of diction are those composed and written in French, the narrative of his expedition to America, the '*Asie centrale*,' and beyond all question the '*Examen critique*.' He was, in fact, lauded by the French for 'an unusual facility in expressing his ideas.' It is related by De la Roquette, that 'Humboldt often allowed his pen to flow too rapidly to secure the methodical arrangement of his works, which he was in the habit of sending piecemeal to the press, and that one day Arago said to him, with the familiar frankness of a friend:—'Humboldt, you don't know how to write a book; you may write for ever, but it will never be a book—only a portrait without a frame.'³ But we have more direct evidence of Humboldt's command of the French language and familiarity with its use, in the admirable 'Introduction' to Arago's works, which was undertaken at the request of the publisher and the family of his deceased friend, and, though extending over two sheets, had to be composed in the short space of nine days. 'It has occupied me four evenings,' he writes to Dirichlet, 'from nine o'clock till four, and

¹ '*Kosmos*,' vol. ii. pp. 67 and 68.

² '*Briefe an Varnhagen*,' p. 23.

³ De la Roquette, vol. i. '*Notice sur la vie*,' &c. p. xxxv.

now it is finished.' The following lines are evidence of the success attending this affectionate devotion to the memory of his dearest friend. 'I wish I could express to you,' writes Casimir Gide, a few days later, when sending him his thanks, 'all the admiration I feel for this eloquent testimony so rapidly composed. You have certainly every right to call the French language *your own*; for we have no writer who could express with greater elegance the pleasure you have derived from your intercourse with your illustrious friend. As I read your letter to Madame Matthieu, she could not repress her tears. How sweet the consolation that you have been the means of bringing to the hearts of that afflicted family!'

→ No German capable of judging of the peculiar charm of both languages could, in view of this beautiful *éloge*, though wanting, it must be admitted, in the sparkling brilliance of Arago's own style, be in doubt as to the language over which Humboldt, whether by nature or habit, had obtained the greatest mastery. There is no question either that the letters he wrote in French were distinguished by more elegance and grace, and were more affectionate in tone, than those he wrote in German. Nor did they fail to excite admiration even in Parisian circles. In construction his sentences were, as we have seen, more allied to French than German, but his excessive use of the adjective was less noticeable in that language, and his constant selection of high-sounding expressions suited the elevated French style as exemplified in the classic writers. To the Frank, who employs his language somewhat in set phrases as a vocabulary, the mode of expression instinctive to the Slavonian seems artificial, and such appears to the German Humboldt's style.

This will suffice for the consideration of Humboldt as a master of style. In regard to the contents of his works, it is evident, as we have seen in 'Cosmos,' that he adopted a method of treatment half literary and half scientific. It is remarkable that he himself should have once observed, 'A mixture of methods never succeeds in literature.'¹ It would savour of pedantry were we to carry the principle of separation of sub-

¹ 'Briefe an Varnhagen,' No. 143.

ject so far as to condemn all the great works of this character which have existed in the world, from Plato's Dialogues to 'Cosmos.' Yet we cannot but rejoice that the success attending Humboldt's semi-literary writings, instead of exciting a servile imitation,¹ has given rise to a praiseworthy endeavour to give to works of a purely scientific character the graces of language and a noble form of composition. Nor is there a more successful method of popularising pure science. By means of this indirect influence, and yet more by the powerful charm exerted by Humboldt's idealism, 'Cosmos' marks an important epoch in the history of German literature, intensifying the effect of the lectures of 1828 by the introduction of science into the popular literature of the day.

By no one was this aspect of 'Cosmos' more clearly recognised, or more heartily acknowledged, than by Bessel, who expressed in warm terms his admiration of the work. On July 5, 1840, he wrote to Humboldt:—'I cherish the hope that a time will come when public attention will be aroused to the phenomena of Nature. At present it seems confined, in Germany at least, to philology and history. This is keenly felt when any effort is made to bring other matters into notice; the position is similar to that of a village schoolmaster endeavouring to render his scholars sensitive to a grammatical nicety. One means of hastening on the period to which I am looking forward is the *popular* representation of science, after the manner of Arago, and not after the fashion of those who mistake inaccuracy and shallowness for popularisation. On this account I have felt a strong desire to see "the book of Nature" brought out. It would come within reach of *all*, and would leap over half a century. It would arouse everywhere, and at the same time gratify, a desire for acquiring a more comprehensive view of a subject.' Four years later, Bessel had the gratification of witnessing the fulfilment of his wishes when the proof-sheets of the first volume were sent by Humboldt for his inspection. He had long entertained the idea of writing a popular treatise upon 'The Art of Observing,' but certainly not in the glowing style of 'Cosmos.' In the perusal of that work the great astro-

¹ I allude to Schleiden's 'Pflanze' and other similar works.

nomer felt incited to fresh admiration over the marvellous universality of Humboldt. 'We shall all learn a great deal from your book,' he wrote on April 19, 1844, 'and I have already learnt much. . . . The survey of the universe, so magnificently given in the first chapter, is the distinctive feature of "Cosmos." Anyone may write upon nebulae or infusoriae, but there is but one who can fill up the scheme laid down in that essay.' On this account so much 'laborious detail' appeared to Bessel to be inappropriate; he wished 'Cosmos' to remain as the grand survey, and the verification of detail appeared to him ridiculous amidst the crowd of thoughts instructing and delighting the reader. 'Raphael invites me to examine the heavenly eyes of the Madonna with all the minuteness I can command; by the aid of the microscope, I discover no sharp outline, only mountains and valleys of colour; after writing a whole sheet descriptive of the deviations from Nature I had witnessed, I take it to Raphael, but should be angry were he not to say: "My good friend, that may be all perfectly true, but what has it to do with the question?"' Some time after he pacified, in the kindest way, Humboldt's tormenting doubts as to the success of his work by the remark:—'It is as difficult for a proficient to *satisfy* himself with his masterpiece as it is for one of less skill with his inferior productions.'

In a similar strain Encke wrote, on June 28, 1844:—'Completion may be carried so far as only to injure freshness, as Lalande has observed: "le mieux est l'ennemi du bien."' But this was just Humboldt's ambition, to combine the greatest possible finish with the greatest freshness; that he laboured for one as earnestly as for the other we shall have proof in the next chapter, when discussing the last volumes of 'Cosmos,' in which the scientific nature of the work is less concealed by the graces of literature. In connection with Bessel's remark, we may be permitted to say a few words upon the reception accorded to 'Cosmos.'

Towards the close of 1844—ten years after the printing of some of the earlier portions, and nearly four years after the final commitment to press, after endless corrections and repeated revisions by competent authorities, for the purpose of securing

accuracy in the scientific data, and elegance of diction—the first volume of ‘Cosmos,’ at length saw the light. The apt quotation from Goethe’s ‘Tasso,’ made use of by Frederick William IV. on receiving the work:—‘So then I hold it in my hands at last, and call it truly mine’¹ . . . was not only the expression of individual but of national feeling. The long-expected book was received on all sides by sympathetic readers; while men of science were impressed by the conviction that Humboldt was ‘the *only* living man capable of solving this problem,’² the general public regarded the work as the embodiment of the spirit of the age. The recognition that was secured to the lectures twenty years previously, only after a tedious combat with the prevalent philosophy, was at once frankly accorded to ‘Cosmos.’ Johannes Müller, in pleased expectation of the second volume, wrote to Humboldt, on October 30, 1846:—‘In view of the remarkable progress in natural science, philosophy has hitherto consoled herself with the thought that to her is reserved the privilege of bringing into unity the various sciences. You have proved, however, that this task comes within the province of the scientific investigator, to whom alone it is possible.’ As at that time the first rank in intellectual effort was universally accorded to experimental science, the brilliant view of science presented in ‘Cosmos’ excited great enthusiasm even among those not engaged in scientific investigation. We shall not attempt to rehearse the numberless outbursts of enthusiastic admiration which greeted the appearance of the work, from crowned heads to the poor schoolmaster or the enthusiastic student. From Metternich he received thanks for ‘the truly happy hours’ afforded him by the *study* of the first volume,³ but the most striking proof of its popularity is to be found perhaps in the following passage, addressed by Humboldt to Jacobi, on November 8, 1846:—‘My book, I can say it with some pride, interests me, the author, less than it does the public.’ He was agreeably surprised by the reception given to ‘Cosmos’ in England, for which he was scarcely prepared; to this success the excellent translation by Lady Sabine doubtless largely contri-

¹ ‘Briefe an Varnhagen,’ No. 94.

² Ibid. No. 98.

³ Ibid.

buted.¹ The work soon spread beyond the boundaries of his native land; besides the French edition, superintended by himself, Humboldt could, in November 1846, boast of translations in English, Dutch, and Italian; he assures Schumacher, not quite correctly, that they were never all together in his house. He watched with some anxiety the criticisms of the press; and eagerly defended himself in letters to his friends upon the points attacked, which were not numerous, and related principally to style. He even thought it worth while to vindicate himself from the various accusations of heresy to which he was everywhere exposed from the pietists and ultramontane party. It would be wholly unworthy of the enlightened spirit of this biography even to allude to the various publications in which a note of warning was raised against the outrage supposed to be committed in 'Cosmos' upon the doctrines of revealed religion. These warning voices failed even to disturb the calm of the pious mind of Frederick William IV.² He himself designed, in 1847, the beautiful commemoration medal, executed by Cornelius.³ On one side was a profile of Humboldt in bold relief; while on the reverse, surrounded by the signs of the zodiac, and a wreath of tropical foliage, was a Genius, with a plumbline and a telescope, drawing aside the veil from Nature: upon him gazes the Sphinx, as if awaiting the solution of her enigma. In the foreground are electrical fish; while above stands inscribed, in Greek characters, the word which has become the watchword of the age—

ΚΟΣΜΟΣ.

¹ On the success attending the reception of 'Cosmos' in England, see the latter half of the 'Briefwechsel mit Bunsen.'

² 'Briefe an Varnhagen,' No. 94.

³ See 'Briefe an Bunsen,' p. 105.

CHAPTER IV.

THE LAST TEN YEARS.

Uneventful Character of Humboldt's Closing Years—Revolution and Anarchy—Reactionary Period and the Regency—Relationship with the Royal Family—Continuation of 'Cosmos'—Other Literary Labours—Appearance and Reality—Position at Home and before the World—Death and Funeral—Celebrity and Permanent Fame—Attempt to anticipate the Verdict of Posterity.

THE closing years of Alexander von Humboldt, which he was accustomed to designate as his 'antediluvian' or 'improbable age,' was characterised more than any previous period by its unbroken routine, and absence of remarkable events. The course of politics, in which previous to 1848 he had been so far interested as to direct from time to time a warning or a guiding voice to those at the head of affairs, was now permitted to flow past unnoticed; he contented himself with the expression of opinion, which, delivered with all his former boldness and freedom, sounded like the cry of the storm-petrel announcing the tempest, which was so soon to burst over the political horizon. The monotonous 'pendulum oscillations' of the court, from which all intellectual life was fast ebbing away, were followed by him with many heavy sighs, like the groaning of some old clock, wearily carrying out its appointed task: his position at court began to appear with greater force in a degrading aspect, but he had become so accustomed to the life, that from mere habit the discomforts had ceased to be felt as such, and had become to him almost agreeable. Life appeared to him increasingly in the light of Dante's celebrated simile, as a race to death, an expression he loved to quote. To his

own death, of which he was continually reminded by the loss of friends—‘C’est comme cela que je serai dimanche!’¹—he looked forward as a happy release:—‘the termination of the state of *ennui* we call life, which we are taught to view somewhat in its true aspect by our disappointments in the attainment of literary fame and its accompanying pleasures.’² But he was not anxious for his release to come; while free from the ‘longing for life’ which had appeared to him so remarkable in Bonpland, and which constantly pervaded the trifling letters of Metternich, he ever felt a thirst for labour, which rendered life most precious. A slight stroke of apoplexy, by which he was attacked two years before his death—‘an electric storm on the nerves, perhaps only a flash of lightning’—filled him with serious thoughts, but only ‘like one who is going a journey, and has still a good many letters to write.’³ He is ‘the wise man who thrusts aside the appalling image of death and calls to action;’ with increasing impatience, he urged his younger friends, to whom he applied for information, for a speedy answer with the warning cry: ‘The dead ride fast.’ He was indefatigable in study; never were the words of Solon, which we have quoted as the motto for this section, more completely realised than in the declining years of Humboldt; so fresh did he keep his marvellous knowledge by a constant acquisition of new facts and continued draughts from the living waters supplied through the investigations of a younger generation, that up to the last he was more remarkable for his universal acquaintance with science than even for his historical records of its achievements. This impetus to labour, or rather to work out the labour of others, combined with an indefatigable exercise of benevolence, enabled him to support the ‘burden of life.’ ‘More to be dreaded than death,’ he had once exclaimed, ‘is that condition of physical suffering and moral depression by which life is rendered a burden, when Hope is shorn of her illusions, when feeling loses its freshness, and when exertion is no longer cheered by that bold confidence

¹ ‘Briefe an Varnhagen,’ No. 150.

² De la Roquette, vol. i. p. 317; the expression dates from 1832, but Humboldt frequently made use of it at the close of life.

³ ‘Briefe an Varnhagen,’ No. 109.

indispensable to success.’¹ Such a condition had been experienced by Humboldt only by paroxysms, often and often had he triumphed over such feelings of depression; to borrow an idea from the ‘Genius of Rhodes,’ his vital force, both morally and intellectually, soon regained possession of his physical frame; his moral courage was renewed, his fears dispelled, his hopes aroused, and never was he deserted by the fearless confidence which enabled him to continue his labours upon ‘Cosmos,’ finally to be crowned with such brilliant success.

In describing the last ten years of Humboldt’s life, there is—except during the days of the Revolution—abundance of material suited to our purpose. Not merely because he more than ever indulged in the ‘garrulity of age,’ of which he often complained in the numerous letters he penned of a night in the solitude of his study, but because these letters have been almost all preserved, and with them a number of personal recollections, out of which it is easy to collect data. Many of these incidents have been already published; but incomparably more, though perhaps not the most important, stand recorded only in manuscript, or are still mere matters of tradition: from these sources it would be possible to give a minute record of Humboldt’s occupations and mode of life for several days in succession, as we had occasion to do in the case of Uhland’s rejection of the Order of Merit on December 5, 1853, but such a course would involve an unnecessary expenditure of time and trouble, and discover but little of interest. Our task will consist rather, as heretofore, in a careful selection of facts. As even the numerous ‘perturbations’ of court life were in these latter years of a rigid and formal character, to carry out the astronomical allusion, the reader must be content with the ‘elements of the orbit,’ in following the path of our hero.²

¹ De la Roquette, vol. i. p. 317.

² A similar restriction must be exercised in giving authorities. In accordance with the principles of this biography, we shall confine ourselves strictly to well-authenticated facts, but parallel passages with which we might fill pages cannot be viewed in the light of authorities. Among the published works yielding material for the closing years of Humboldt’s biography, we may mention, in addition to the correspondence of Varnhagen, Bunsen, Berghaus, and others, Fr. Althaus’ ‘Briefwechsel und Gespräche A. von Humboldt’s mit einem jungen Freunde, 1848–56;’ of the manuscript

In the previous chapter, political events were carried up to the outbreak of the French Revolution of February 1848. This event was the presage of a stormy agitation in Prussian politics; and it will naturally be asked how far the sympathies of the zealous adherent to the 'ideas of 1789' were enlisted in this widespread movement. Had this admiration ever been of a practical character, or had Alexander von Humboldt been as truly a 'man of the people' as he was popularly represented to have been, it was to be expected that, in spite of his great age, he would have played some part, if more representative than active, in the events of March and the following months of 1848. But Arago's friend was by no means himself an Arago; of the passionate fire that gleamed in the eyes of that child of the South, there was scarce a trace in the good-humoured countenance of the man of science of the North; it might be almost unhesitatingly asserted that Humboldt would never have accepted even an honorary position in the provisional government, had such a proposal been made to him. We have already noticed 'his sympathetic rejoicings with the French' upon hearing of the February Revolution in Paris; on March 12, he wrote to Varnhagen enclosing a poem by Freiligrath in honour of the Republic;¹ but with him this was only a theoretic play of fancy; he had no serious thought of a Republic being established in his native land, any more than he believed in France continuing without a monarchical government. In what light the Revolution at Berlin was viewed by him at the moment of the outbreak, or even immediately before its occurrence, we have no means of ascertaining: Varnhagen and Humboldt failed to meet either on March 17 or 18.² In the attempt to chronicle the Revolution of Berlin, it has been stated that Humboldt was one of those who in the eleventh hour sought to conjure the king to allay the storm by granting a concession. Information thus derived should be

authorities, those of chief importance are the letters to Böckh, to the Princess of Prussia, to Curtius, Dove, and Johannes Schulze; besides various letters from numerous correspondents, either found among Humboldt's papers or given by him previously to Seifert.

¹ Varnhagen's 'Tagebücher,' vol. iv. p. 274.

² Ibid. pp. 284-8.

received with caution, but the action in itself is one entirely consonant with his habits as well as his course of duty. It can be no subject of surprise that neither his voice nor the recommendations of other advisers were productive of any effect. To one of his benevolent feeling, who sought the spread of intelligence merely through intellectual means, the fighting in the streets must have occasioned the deepest distress. It was widely reported that on the 18th, when fighting commenced, his dwelling was entered by a party of workmen in search of arms. He encountered the intruders with the remonstrance that they were disturbing the quiet of a peaceful man of letters; whereupon they inquired his name, and learning that they were standing in the presence of Alexander von Humboldt, respectfully withdrew, apologising for the intrusion with the remark that they were well aware of his sentiments, and had no wish to disturb him. To protect him from further annoyance, they appointed a guard over his dwelling. The story is unauthenticated, and is not in itself very probable; but even if fictitious, it gives a just picture of the position Humboldt occupied in the minds of the Berlin populace. When, after the battle of Wörth, the mechanics from the Borsig workshops marched past the royal palace in the exultation of victory, they lowered their colours in honour of Humboldt as they passed his house—an evidence of the instinctive feeling that lurks in the bosom of the lower classes as to the unity of all true fame, and the noble relationship that exists between intellectual greatness and the grandeur of a nation energetically struggling for freedom.

After the parade of the German colours, on March 21, when the king, at the instance of the crowd, appeared on the balcony of the palace, a cry was raised for Humboldt, who had the tact only to bow in silence, while in front of him¹ Count Schwerin addressed the populace. The next day he followed with the multitude the funeral procession of those killed on the barricades, and there are many who to this day cannot forget the act. To us it appears to have been done much more out of consideration to the king than as a mani-

¹ Varnhagen's 'Tagebücher,' vol. iv. p. 336.

festation of political sympathy; least of all should we be inclined to view it as an effort to attract popular favour—a step which, from his shy temperament, would have been wholly foreign to his nature. It is true he did not decline to yield homage to those who had died for an idea, and felt no hesitation in testifying his respect openly: but when it is remembered that Frederick William IV. had once seriously determined to accompany in person the funeral procession,¹ and that the courtiers had also intended to undertake this distasteful duty, the presence of Humboldt on the solemn occasion will appear in the light of a voluntary representative of the king and the court. The trying hour had now arrived, of which he had prophetically spoken in 1842, when the ‘old tricolour rags’ would have to be unfurled in order to preserve to his royal friend a remnant of popularity. In our opinion, Humboldt’s presence on this occasion of public sorrow is undoubtedly to be classed among the numerous efforts he was perpetually making to secure to his sovereign the respect, if not the affection, of the people, and to re-establish between them sentiments of peace and reconciliation.

There are comparatively but few letters of Humboldt’s extant belonging to the summer and autumn of 1848: are we to suppose that he abstained from giving expression to his sentiments² during this unsettled period, or is there any other cause to account for this interruption to his correspondence? There can be no doubt that many letters were addressed to Varnhagen which have not been included in his well-known collection. In any case sufficient remain to present us with an outline of the occurrences of that time. Humboldt was not one of those who are easily driven to despair, he rejoiced rather at having been a witness of the events that had taken place. The constitutional freedom that had been secured had ever been ardently longed for by him, he would only have preferred that it had been brought about by the well-timed concessions of the king rather than by the convulsions of revolutionary proceedings.³ He now felt anxious that the Government should possess

¹ Varnhagen’s ‘Tagebücher,’ vol. iv. p. 341.

² Gathered from a letter to Bunsen, No. 57.

³ Ibid.; see ‘Briefe an einen jungen Freund,’ p. 13.

power and discernment, so that, while sympathising unreservedly with liberal principles, it might destroy the tendency to anarchy which he viewed with extreme horror. His warm interest in the general movement for a united Germany by no means lessened his marked attachment to the individual interests of Prussia. He desired to see 'the unity of the nation powerfully maintained in its external relationships and in all the internal arrangements of government,' without at the same time 'destroying the individuality of the separate States, associated with so many grand reminiscences.'¹ From the first he viewed the revolution at Berlin as the only decisive movement among the events of the time, while, with a perspicacity that did honour to his political foresight, he had little confidence in the proceedings of the Diet of Frankfort. Ere May had passed away the 'misty empire and the unborn pretender to the Imperial throne' filled him with many forebodings. The conduct of the Assembly appeared to him exceedingly 'frivolous,' he saw occasion for the gloomiest apprehension in the person of the Vicar of the Empire, 'whose ideas could rise no higher than the barometric measurement of a mountain, or a guard of Tyrolese;' and in the election of an Emperor he had no hope, for he knew Frederick William too well to believe in the success of the deputation offering him the Imperial crown. The unfortunate affair of the duchies aroused in him feelings of the liveliest sympathy. In short, he directed over all a glance in which there was united a happy mixture of liberal enthusiasm and patriotic warmth; his exultation was ever tempered by anxious forebodings, though he overcame all distressing doubts by a courageous confidence in the future development of history.

Had politics been Humboldt's peculiar province, we should have been tempted to make a collection of his excellent remarks upon the changeful events of this disturbed period. The circumstance of his having, according to the fashion of the day, joined² the 'free tradesmen's unions,' between the years 1848-50, will scarcely be regarded as a political act; in reality, he renounced all connection that was not entirely nominal with the 'perplexities and quarrels of the time,' the

¹ 'Briefe an Bunsen,' Nos. 58, 59.

² Ibid. No. 90.

more willingly, as in the narrow circle in which he passed those sad summer months—shut up with the king at Potsdam, he was entirely cut off from political sympathy. ‘I am glad to take refuge,’ he wrote to Berghaus in August 1848,¹ as often as I can, from the everlasting complaints to which I am condemned to listen upon the ingratitude of this degenerate race, and from the perpetual state of indecision ever before me, in the inexhaustible study of Nature, finding in the contemplation of her phenomena and the discovery of her laws that peace which at the close of a restless life I feel to be so necessary.’ To him it was a subject of regret that Arago, on whose account he had suffered considerable anxiety during the June days, should be so deeply entangled in politics. On July 31, he writes to him : ²—‘I grieve to see your generous devotion to public affairs, the natural impulse of a grand character, so often put to the proof. How grateful I feel that your health has not suffered from such long continued strain. I am still working with true German constancy at the last volume of this interminable “Cosmos.” Your handwriting lies before me on the table. The sight of it sometimes saddens me, but more frequently it seems to revive my courage and inspire me with noble thoughts; this results from a friendship which for forty years has been my chief source of happiness, and which widens and deepens as the sphere of action which you have created for yourself expands intellectually, socially, and politically.’ His increasing dissatisfaction with the prevailing anarchy and the extravagances of radicalism is strongly apparent in a letter addressed to Paris on September 24, whence we quote the following passage : ³—‘While on one hand the attempt is made to consolidate liberty by despotism and an absolute government, all attempt to reinstate order in the streets is viewed as a reaction in favour of aristocracy, and one cannot even go to spend the evening with one of the ministers without running the risk of being hit on the head with stones or brickbats. I hope some principles will nevertheless be left to us, and that at least the long-established prejudices in favour of morality,

¹ ‘Briefwechsel mit Berghaus,’ vol. iii. p. 1.

² De la Roquette, vol. ii. p. 386.

³ Ibid. Avert. des nouv. édit. p. vi. Address unknown.

family ties, and the sacredness of marriage will remain. One must know how to wait when one is not more than eighty. In the midst of these tumultuous agitations I am more than ever filled with a zest for work and literary distinction. Illusions even are not without a useful purpose. There is no illusion, however, in the sweet consolation I have derived from the fact that my oldest and most illustrious friend ¹ has been able to preserve the beauty and grandeur of his noble character when elevated to the summit of human greatness.' Deeply was he affected by the bloody scenes enacted by the victorious party in Vienna: 'What frightful bloodshed!' he exclaims to Curtius, 'how murders have multiplied since the martyrdom of Lichnowski! Shame on our German Fatherland! And now we have the telegraphic announcement that the President of the Republic is not to be elected by the vote of the Assembly, but by the voice of the people. From such a course the worst results may be apprehended.'

He had soon the grief of seeing in his beloved France the wild course of affairs again hurrying, as he had formerly described it in 1830, on the return road to tyranny; and in his own country he lived to see the fruits of the Revolution, both good and bad alike, swept away ere they had time to ripen by the storm of the reactionary movement. From his own words, we have seen how strong his desire was that some energetic steps should be at once taken by the Government to repress anarchy; but he was deeply grieved and humiliated that the supreme power, after having gained courage for such a course, failed to persevere in it, and allowed the reactionary movement to increase with accelerating speed from day to day. In his letters he sorrowfully brings the dates 1849 and 1789 repeatedly into juxtaposition. 'During those distressing years of reaction public feeling seems to become ungovernable, and every newspaper is stained with blood.'² The conduct of the German governments filled him with disgust, 'for, boldly disregarding the engagements into which they had entered, they wallowed, as the Red Republicans had done, in deeds of fiendish atrocity.' The retrograde movements in Prussia appeared to him doubly dangerous, from

¹ Arago.

² 'Briefe an Varnhagen,' No. 130.

a conviction that a just and liberal policy 'in contrast to Austrian tyranny could not fail eventually, through the force of Prussian opinion, to influence the German people and their various governments.'¹ As long as it was possible, he sought to maintain his opinions before the king:—'Our noble king,' he wrote to Bunsen, in November 1849, 'holds firmly to his promises for Germany, if I have not misinterpreted hopes and eager wishes.' Again, 'when casting a somewhat melancholy glance within and around him on his antediluvian birthday,' September 14, 1850,² it appeared to him that Frederick William was 'the only pure and upright character amid the crowd' of his surroundings; at the same time he could not but perceive with sorrow that the Prussian policy was still conducted in the same spirit of perpetual vacillation, in justification of which 'new motives, real or assumed, were being constantly pleaded.' To Bunsen he clearly indicates 'the three vital points, none of which can be dealt with separately, to the joint action of which is to be attributed the careless and indifferent temper of the people,' a matter of great importance in the isolated situation of Prussia: 'the unfortunate Duchies of Schleswig-Holstein, so purely German and lying somewhat nearer to us than the Chinese; the German Parliament at Erfurt, which cannot be saved from destruction even by a laudation cut in stone; and, lastly, Austria, who, assuming towards us an attitude of contemptuous scorn, is ever aiming at the destruction of every constitutional and representative government.' The nomination of Radowitz, of whom he afterwards bore testimony, that he had 'always striven towards noble purposes by the use of means in which his imagination found satisfaction,' and the demonstration in Prussia against the 'crimes of Hassenpflug,' combined to inspire Humboldt with fresh hopes; the State appeared to him to be surrounded by dangers, although, to the Princess of Prussia, he expressed his joy that a time of action had come, 'for the measure of humiliation was full.' But it was not yet full, for not until the day of Olmütz did Prussia show the depth of degradation to which she had sunk; as the Princess of Prussia remarked, it

¹ 'Briefe an Bunsen,' Nos. 63, 64.

² Ibid. No. 65.

writing to Bunsen :—‘Old Prussia was entombed on March 19, 1848, and New Prussia has found a grave on November 3, 1850.’¹ We shall not be far wrong if, in the disastrous turn of public affairs, we ascribe to Humboldt the same sentiments to which his august correspondent had thus given expression. It will not seem inappropriate at this juncture to say a few words respecting the relationship in which Humboldt stood to this noble-hearted woman, and true patriot.

It was through reminiscences of Weimar that Humboldt was first brought into a position of intimacy with the Princess of Prussia; to the granddaughter of Karl August he readily transmitted a large share of the regard he had felt for that distinguished prince. It happened upon one occasion, when writing to the princess upon the death of the Chancellor Müller, that Humboldt reverted with some warmth to the recollections of earlier days, and in concluding a eulogy of the chancellor, gracefully added :—‘One point on which he won my regard was that, while having early recognised in you, madam, the development of a grand and noble intellect, and being able to enter into that which others failed to comprehend, he ever felt for you a sincere admiration and devoted friendship. This was of the kind I most admire, being grounded on instinct and reason.’ Admitting that these expressions may have been heightened by flattery, they yet convey the forcible impression that the interest aroused in Humboldt by the princess was due principally to ‘her thoughtful mind and high culture,’ while his sympathy was excited by ‘the moral sufferings’ to which she was subjected from being surrounded by those wholly incapable of appreciating her liberal sentiments.’² Of her, Humboldt wrote to Bunsen in 1846 :—‘Her superior intellect leads her to be greatly harassed and distressed.’ The statement occurring in Varnhagen’s journal for March 2, 1848, that even at that time Humboldt was, with the Duchess von Sagan, included by the princess among the ‘four individuals who really understood her,’ is highly probable.³ He subsequently was permitted to occupy a position of great intimacy

¹ ‘Chr. C. J. Frhr. von Bunsen,’ vol. iii. p. 165.

² ‘Briefe an Bunsen,’ pp. 82, 83, 93.

³ Varnhagen’s ‘Tagebücher,’ vol. iv. p. 257.

in the sad period immediately succeeding to the Revolution which was spent by the princess, in the absence of her royal consort, in complete retirement with her children at Potsdam. During those unhappy days Humboldt was her intimate friend. Ernest Curtius, who, since his appointment as tutor to Prince Frederick William, had looked upon Humboldt as his good genius at the court, by whom he was ever befriended with fatherly sympathy in circumstances of difficulty, read aloud to the princess in this sad time the 'Aspects of Nature,' and, as an effort to alleviate the gloom of that distressing season, composed the small poem on 'The Parrot of the Atures,' which Humboldt introduced the following year into his new edition of that work. The elevated tone of this select circle is reflected in the following passage inscribed by Humboldt, at the request of the princess, in an album presented to Curtius as a birthday gift at Babelsberg, September 2, 1849 :—

'Like the bird perched above the foaming cataract, of which you have so sweetly sung—the last of the Atures—so am I now left the sole survivor of an extinct race. While it has been your privilege, dear Curtius, to feast your gaze upon a classic landscape, where forms of boldest contrast are gracefully blended, where the rock-girt shore, luxuriant with the cypress and the oleander, rises from a brilliant expanse of undulating sea: while your active mind and natural eloquence have received inspiration from that eternal and unchanging aspect of nature in which the past glories of Greece are reflected—my wanderings have but led me to the banks of nameless rivers, through the wild forests of the Orinoco, up snow-capped burning mountains, and over the boundless grassy plains of the Irtysh and the Obi. In solitude, I should have been left to the sad feeling of being the last of my race, had not the consolations of friendship been mercifully lavished upon me. From the laurel-crowned slopes of this gentle eminence, in an atmosphere of intelligence and refined culture, I am privileged on this festal day, honoured by this distinguished commemoration, to dedicate in unrestrained freedom, "*cursibus obliquis fluentes*," with *heartfelt* gratitude and affection, these few lines to the poetic delineator of Naxos.'

These important years, during which every liberal movement

was followed by Humboldt with sympathetic interest, were thus spent in confidential intercourse with that branch of the royal house upon whom rested the future hopes of the country. In writing to Bunsen on November 2, 1849, he remarks: '—The events that have recently transpired have produced a beneficial effect upon the Prince of Prussia. He maintains a gentle though dignified opposition to the reactionary movement.' In 1854 he describes both the prince and princess as 'characterised by great nobility of sentiment, and preserving a firm demeanour.'¹ Subsequently 'the increasing alienation' between the reactionary court of Berlin and the 'noble Prince of Prussia' caused him deep grief and concern. With the princess he had corresponded since 1849. In these letters Humboldt expresses himself with great freedom upon the course of political events, and subscribes himself in such terms as 'secular court-chaplain, le physicien de la cour, the most faithful of antediluvian men, le très-illisible, très-incorrec, très-humble, très-obéissant, très-fidèle serviteur.' With the exception of some birthday congratulations and a few 'official bulletins' for the information of the princess when absent from Berlin, these letters are some of the most interesting among Humboldt's correspondence, and give an exalted idea of the intellectual nature of this friendship. The misfortunes of the exiled royal house of France, more especially of the Duchess of Orleans, formed, as we have before observed, the principal theme of this correspondence, in which, while animadverting on the detested usurper, the probability of a recall to the throne was often referred to; and the complications of German and Prussian affairs were discussed with no less freedom. To one so near the throne it would have been unbecoming in Humboldt to refer to the sorrowful contrast presented by the years 1789 and 1848; he boldly asserts, however, on one occasion, when writing on September 18, 1852, that a man of his sentiments was fit only to live in England—from which, however, he was strongly repelled by its 'chilling social habits.'

A peculiar charm is spread over these letters from the affectionate sympathy expressed by Humboldt in the children of

¹ 'Briefe an Bunsen,' p. 117.

² Ibid. p. 181.

the royal household, and the tender solicitude he evinces in the education and wellbeing of the youthful prince and princess. He expresses delight at the development of the 'princeps juventutis;' the exalted ideas he entertained of the liberal influences exerted upon the character by the study of Greek literature led him to view with approbation the appointment by the princess of an able classic as tutor to the heir apparent.¹ This, however, was not in itself deemed by him a sufficient preparation for the important duties of a modern ruler. In consequence of some suggestions he had made, the princess requested a full statement of his views upon the subject, which he gave in the most unreserved manner on August 30, 1853, 'as one who felt he was dealing with those who were strangers to flattery, and who knew how to appreciate the force of public opinion.' After the salutary example of Frederick the Great, he laid great stress on the study of political economy; he advised that an experienced politician, such as Flottwell, well acquainted with official routine, and no mere University man, should give the prince instruction in civil administration, point out the true sources of national prosperity, and instil into his mind enlightened views of free trade and political economy. Let it not be supposed, however, that Humboldt deemed that an education such as would be suitable for a Manchester man could be regarded as sufficient for an heir to the throne of Prussia. He laid equal stress upon the importance of a military education, and again following the example of Frederick the Great, gave a decided preference to the history of military campaigns, above a mere acquaintance with the theory of strategy. The point he chiefly insisted on was instruction in the planning of operations, by following on a military map the manœuvres that had actually taken place, and tracing the effects, either good or evil, which had resulted from a given position of troops; Höpfner was recommended by him as a suitable instructor, and was eventually selected for the post. When we remember the important military campaigns in which the crown prince has recently been called to take part, we are compelled to entertain the highest veneration

¹ 'Briefe an Bunsen,' p. 93.

for Humboldt's penetration and political discernment in the reasons upon which he bases the advice given in this remarkable letter, namely, that Prussia had been already too long under the guidance of Russia, and would shortly be obliged, in her own interests, to hold herself in warlike preparation. It was through bitter experience of the evils he had been called to witness in the Government that Humboldt had gained this remarkable foresight; and in giving so much prominence to the practical details of administration he was no doubt influenced by the disastrous effects evinced in Frederick William IV., of a merely ideal education, directed mainly towards ecclesiastical affairs and subjects connected with art.

It was with heartfelt interest that Humboldt entered into every event associated with the domestic happiness of the august household; the prospect of a matrimonial alliance with England was to him a subject for sincere exultation, on account of the encouragement it was likely to afford to liberal principles. 'Nothing could be said in greater praise of this union,' he wrote on September 20, 1855, 'than the furore, but ill-concealed, to which it has given rise.' In the union of the Princess Louise with the Grand Duke of Baden, his only cause of regret was the removal to a distance of the amiable young princess; his profuse employment of laudatory adjectives was carried to an extreme, when in one breath he characterised her as '*angélique, délicieuse, intelligente, vive, magnétique, éloquente même quand elle se tait, naturelle quand elle parle.*' We feel that in every point of view we shall be pardoned the indiscretion if we insert a passage full of freshness and beautiful feeling from a letter of congratulation written by the grand duchess to Humboldt upon his birthday, September 14, 1857; for it not only absolves him from every suspicion of flattery in the above expressions, but illustrates the somewhat perplexing attitude he maintained at court. From her home at Baden the young princess writes:—'I cherish a grateful remembrance of the many occasions in which I have enjoyed your society, and of the kind interest you have invariably manifested in me from childhood; these recollections ever awaken in me a strong desire to see you again, that now that I am a wife and mother I may listen to you as I used to do as a child, only with double

interest and respect. I frequently recall the visit I once paid you, and never can I forget the kindness with which you showed me your valuable manuscripts. The remembrance of these hours is deeply engraved on my heart, where they will ever be affectionately cherished. Since last I saw you my life has altogether changed, it has become so much more beautiful and glorious; my domestic happiness has increased and strengthened, and my darling infant has brought me a joy such as I had never anticipated. Could I but show you my little treasure, I am sure you would rejoice with me, but even unseen I cannot but commend it to your sympathies.' Letters betokening a friendship equally sincere were received by Humboldt from the grand duke.

The arrival in Berlin of the Princess Royal of England was greeted by Humboldt with the liveliest joy; 'she cannot be too highly praised,' he wrote, 'for intelligence, sweetness of disposition, and frankness.' In writing to the Princess of Prussia in the autumn of 1856, he besought her not to remain too long in the 'far West,' away from her daughter-in-law, so that the daughter of Albion, accustomed to the affectionate intercourse of a family circle, should not be left too long alone in the arid atmosphere of a foreign court.

It will readily be conceived that with the deepest personal sympathy for the distressing affliction of the king, Humboldt could not but regard the change necessary in the Government as one likely to promote the interests of the country. Instead of the half-measure of appointing a deputy, Humboldt would have preferred that the regency soon found to be inevitable had been at once declared. 'A deputy-Government, thus weakened by conflicting elements,' he wrote to Curtius on November 25, 1857, 'and hampered by a thousand constraints, to which is added the necessity of acting with men who have set themselves in opposition to everything which a new Government seemed to promise, fills me with grief for the noble Prince of Prussia, who has shown a spirit of so much self-sacrifice in the path of duty. His conduct is most exemplary, and he and his noble son preserve an admirable demeanour towards the invalid no longer able to take any interest in public affairs, and the queen who shows

great character and self-command.'¹ Subsequently, when the regency was definitely arranged, he writes in great glee to the same friend on February 16, 1859 :—' Come and spend a few weeks with us at our new Berlin, where you may now breathe freely.' The atmosphere of the new *régime* is apparent in these lines; it was Humboldt's fate only to experience this refreshing influence as a quickening draught during life's latest hours.

Ere we can fully realise the sad feelings by which Humboldt's mind was frequently overcast during the years succeeding the Revolution of 1848, before the regency shed a glorious light over the political horizon of Prussia, we must for a few moments reluctantly withhold our gaze from the grand destiny to which she has since been called. It has been exceedingly disastrous to the memory of Humboldt, that an undue prominence has been given to the expressions of dissatisfaction he made use of during these sad years; at the present day, when history has confirmed the truth of most of these expressions, when the Manteuffel rule is no longer thought of but as a frightful political dream, with a feeling half of shame that it ever existed, half of joy that it exists no longer, when even many acts of Frederick William IV. subsequent to 1848 now find their explanation in the disease which must have been coming on, long ere it was suspected, it ought rather to be a subject of admiration that the venerable philosopher should have had sufficient elasticity, often as he had been bitterly disappointed, and while yet in the 'perplexity of a dreary existence and in a period of such moral degradation,' still to place hope in the future. He used to repeat to himself 'the doctrine of History in all ages, that the march of Nemesis never falters, and that Truth and Justice must eventually triumph.'² It is true that he adds sadly, with Benjamin Constant :—' I am quite aware that principles are imperishable, but unfortunately I am not a principle.' His subsequent remark that 'centuries are but seconds in the development of the human race' evinces a nobler tone of thought, and the limitation he subjoins is as true as it is

¹ See 'Briefe an Varnhagen,' No. 224.

² 'Briefe an Bunsen,' p. 147.

ingenious:—‘The ascending curve is formed of smaller curves, and it is exceedingly uncomfortable if one happens to be in one of the retrograding lines.’¹ At this period everything seemed to be retrograding. The Crimean war was hailed by Humboldt as a step towards the emancipation of Europe from the dangerous supremacy of Russia, and he therefore viewed with regret the neutral position occupied by Prussia.² He mistrusted the intentions of Napoleon, notwithstanding the moderation he had shown at the Peace of Paris; with remarkable sagacity he had perceived as early as 1854 that the Imperial policy was in reality directed—cleverly as it was concealed—to the extension of the French frontier towards the north-east. As the emperor was preparing himself for his greatest task, and with some reluctance was unsheathing his sword for the emancipation of Italy, Humboldt closed his career: of the great events that were on the eve of transpiring—the revolution of two kingdoms, the abolition of slavery, the regeneration of Germany, and the demolition of the Pope’s temporal power—he can scarcely be supposed to have had any premonition. Just at the point where the curve of history was beginning to rise, Humboldt was called away from following its majestic course.

In detailing the history of the last few years, there remains little to be added to the remarks in the preceding chapter on Humboldt’s connection with politics during the reign of Frederick William IV., for his refusal to take any part in the galvanic resuscitation of the Council of State in 1854 can only be regarded as a negative act. Scorning to be associated politically with Stahl and Ranke, he withdrew ‘upon grounds wholly irrespective of age.’³ To the ‘king, who was quite incapable of exerting upon others the influence that might have been expected from his superior mental endowments and admirable moral qualities, he had become more than ever a necessity.’⁴ ‘In minor matters he was able occasionally to enhance the lustre of the royal name,’ by the patronage of the arts and sciences, and by charitable exertions in favour

¹ ‘Briefe an Varnhagen,’ No. 150.

² ‘Briefe an Bunsen,’ pp. 175, 182.

³ ‘Briefe an Varnhagen,’ No. 159.

⁴ ‘Briefe an Bunsen,’ p. 142.

of the persecuted and necessitous of all classes; with Humboldt's mode of procedure in such cases we are already familiar, and further details would but consist of an endless list of names and grants of money. 'In matters of greater moment, in which the glory of Prussia and of the whole of Germany was concerned, he contended as formerly without result.' 'The time in which one might have been heard,' he complains on December 30, 1854, 'is long since gone by.'¹ It has been already hinted that even the private intercourse enjoyed by Frederick William with Humboldt became of a less intellectual character; it was a premonition of the afflictive catastrophe which occurred in the autumn of 1857. This melancholy event produced, however, no change in their mutual affection; and during the first few months Humboldt was repeatedly selected, by the express desire of the king, to be his companion at Charlottenburg and Potsdam; Frederick William was moved even to tears in taking leave of Humboldt on October 11, 1858.² Up to his last moments the unhappy monarch continued to send him affectionate greetings from Rome and Florence, through the queen or the Countess Dönhoff. It should be remarked in passing that Humboldt's esteem for this noble queen³ had increased from year to year, and that while he had every opportunity of observing her closely in her difficult position, we are not aware that the slightest word unfavourable to her at any time escaped him. He who did not scruple ruthlessly to destroy the 'false image that had been formed by conventionality of the character of Queen Louisa,'⁴ knew well, in opposition to the idle talk of political circles, how to appreciate in Queen Elizabeth those purely womanly gifts which led her to seek retirement from public life.

During the years from 1827 to 1859 we have watched the course of Alexander von Humboldt in his character of courtier and politician, for only in some aspects could he be truthfully described as a court-politician. To those who judge human actions by their results alone, the efforts made by Humboldt

¹ 'Briefe an Bunsen,' p. 122.

² 'Briefe an Varnhagen,' p. 400.

³ See 'Briefwechsel mit Berghaus,' vol. iii. p. 134.

⁴ Varnhagen's 'Tagebücher,' vol. i. p. 9.

during this period will not seem to have an appreciable value; to those who judge others according to the standard of their own ideal, the man who, while cherishing in his heart 'the ideas of 1789,' could clothe himself in the uniform of a chamberlain, cannot fail to be the subject either of ridicule or of censure. No one, however, will presume to deny that in Humboldt we have the example of one who, in advanced years, throughout a sad and inglorious epoch in the national history, manifested an enthusiasm almost youthful for the honour of his country; and was ever animated in the fulfilment of duty by a spirit of kindness and sincerity, if not by magnanimity and force of character; a servant, no doubt, and indeed a confidential and personal servant of the king, in a country where the king, according to the conception of the wisest and best of the land, should be nothing more than the first servant of the State. If in the ranks of the Church no higher title can be found than that of the servant of the servants of God, it follows that the office of first servant of the first servant of the State deserves to be regarded—precisely on account of the self-negation demanded—as a place of honour by those who proudly rejoice in their own freedom. But whatever may be thought of the position occupied by Humboldt, it is sufficient to say, that he fulfilled his duty. It was from a sense of patriotism that in the autumn of 1858, a few months before his death, when his habits 'had begun to assume the melancholy aimlessness of old age,' he was once more seen with the rabble of the district, recording his vote at the poll: the circumstance was mentioned in the papers, and was even made the subject of some verses. The aid of poetry was not needed to do honour to a deed which to him would appear so ordinary, and it may be fearlessly maintained that so long as this indefatigable traveller had strength to move, he would never through indolence renounce the path of duty.¹

Humboldt's labours in science during these last ten years consisted almost exclusively in the continuation of 'Cosmos.' The third and fourth volumes, with the fragments of a fifth, present a character widely different from the previous portion

¹ See 'Briefe an Varnhagen,' p. 398; 'Briefe an Bunsen,' p. 201; the poem of 1858 was found among Humboldt's papers.

of the work since the literary aspect is entirely subordinated to the scientific requirements, and the minute exhibition of detail occupies the place of the former generalisations. Of this change Humboldt was himself conscious, and anticipated the verdict of the public. 'As formerly my work was thought to be too meagre and too poetic,' he wrote to Jacobi in 1850, 'so now it will be said to be too redundant and too prosaic. The bold attempt to give well-authenticated facts in astronomy, magnetism, geology, meteorology, and physical geography, in which every detail is worked out as if it were the only point to be considered and discussed until its significance is made clear, deserves, at least, when one is past eighty, some amount of appreciative recognition.' As in discussing the first two volumes our attention was mainly directed towards the literary merit of the work, the task now before us is rather to give a review of 'Cosmos' in its scientific aspect. There are two passages, however—the introductions to the third and fifth volumes—to which we shall first direct our attention, as from their import they connect themselves with the 'generalisations' of the former work.

While still in the expectation that the specific portions of the work would not occupy more than one volume, Humboldt wrote to Büchh on August 10, 1849 :—'My object in the last volume is once more to enchain the reader by the contemplation of all that has been attempted during the last 2,500 years towards the solution of the enigma of Nature, and, while touching only slightly upon the intermediate steps, to bring out the *resemblances and contrasts* in the philosophy of science, as developed by Giordano Bruno of the Italian school, by Descartes, and by Newton. The style of the work must again be that of a general survey of philosophic thought, in which the principle of generalisation must not be carried so far as to prevent an interest being aroused in the special and individual points in the systems of the various founders. I admit it is a *mannerism*, but the renunciation of pathos in my style conceals the intention, and hitherto the mannerism has been successful. The "introduction," from its style and treatment, ought to form a connecting link with the previous volumes.' Nearly ten years afterwards Humboldt forwarded to

Böckh, on May 12, 1858, the manuscript of the shorter introduction to the fifth volume, in which he 'dilates for the last time on natural philosophy.' An outline of the history of natural philosophy, forming the subject of the introduction to the third volume, had been treated of in the lectures upon physical geography, and it is possible that in the same way as he touched upon philosophy in the 'History of the Rise and Progress of Science,' in the second volume, so now this was written to form an introduction to the mass of collected facts. But it served also another purpose; it was an attempt on the part of the author to bring himself into accord with the spirit of the age, towards which he could no longer conceal from himself that he stood at some variance. If, as we have seen, 'Cosmos,' in its scientific aspect, breathes the spirit of an empiric age, if its generalisations are of a character wholly unspeculative, and bear traces of being inspired by the idealism of the literature of that epoch, it was nevertheless true that not only had that literary age passed away, but also the empiricism in science which set aside all speculation. In the same year in which the second volume of 'Cosmos' made its appearance, Helmholtz had published his treatise 'Upon the Conservation of Force,' which was to create a revolution in science, and issue in a new epoch in the history of natural philosophy. Humboldt, who was sensible of this change, enters, as it were, upon a defence of his works in this introduction. Without referring ostensibly to the new theory, he makes the admission that 'though in various groups of phenomena we are obliged to content ourselves with the discovery of empirical laws, the grandest object of all scientific investigation—unfortunately rarely attained—must ever be the establishment of the connection between known laws.' He raises a note of warning against the 'illusions' likely to arise from visionary hopes, and from 'believing too hastily in the discovery of the principle by which all the changes in the physical world are to be explained,' while in order to reinforce the warning, he brings before the reader the history of natural philosophy, but in so doing he betrays a consciousness of having taken up a position no longer tenable.

This is still more evident in the introduction to the fifth

volume. Meanwhile he regarded the mechanical theory of heat as 'very clever, and developed with great ingenuity.' He sought information from Magnus upon the subject, as appears from letters found among his papers. In writing to Dove on November 6, 1857, he complains:—'I am still tormented, though it is entirely my own fault, concerning this mechanical theory of heat as upheld by Joule, Grove, Rankine, &c. My physical and intellectual powers are on the wane, therefore I am all the more industrious and anxious that I may present you as soon as possible with the first part of the last volume of "Cosmos"—that work upon which I so inconsiderately entered. Pray avoid living to so unusual an age!' This tormenting uncertainty is unmistakably evident in the introductory pages to the last volume, published, after Humboldt's death, by Buschmann, in 1862; as a general principle, he no longer doubts in the possibility of the reciprocal conversion of heat into force, but in individual instances too much seemed to be built upon 'somewhat capricious assumptions;' the atomic theory still appeared to him a convenient form of expression, and one universally current though full of 'myths.' The new form assumed by 'metaphysical science' he was evidently incapable of receiving, and his inquiry is almost touching as to 'whether "Cosmos" had remained true to the plan originally devised—he might almost say had kept within the *limits* that had appeared to him advisable from his own point of view, and from his acquaintance with science as it then was.' Science had in the mean time undergone many important changes, the epoch of the intellectual development of mankind, as evinced in the aspect of science in 1834, of which 'Cosmos' was the record, had already passed away. If to this be added that only a year after 'Cosmos' had been brought to a close by the death of the author, the discoveries of spectrum analysis had annihilated the strong separation insisted on by Humboldt between cosmical matter regarded only in the mass, and telluric matter to be viewed in all the varieties of its component materials, it is impossible not to be vividly reminded of the passage in the introduction to the first volume, where the possibility is suggested that 'Cosmos' may become antiquated.

It is not, however, to be wished that Humboldt had lived to witness these and similar revolutions in the scientific world by which he might have been tempted to remodel his great work. The admirable arrangement of the first two volumes almost forbids the contemplation of such a design. It would probably only have led to the introduction into the specific portions of further additions, elucidations, and modifications, by which in the end nothing conclusive would have been accomplished. The only subject for regret is that the terrestrial portion has not been fully brought up to the state of scientific knowledge in 1859: much valuable detail might have been introduced upon hydrology, meteorology, and the distribution of organic life upon the earth's surface. Humboldt had himself intended, in case of necessity, to commit the completion of the work into the hands of some of his scientific friends. 'It shows an egregious want of foresight,' he wrote on October 26, 1851, in announcing to Gauss the preparations for the fourth volume, 'for me at my pre-Adamite age to think of a new volume; but in the event of my death, my friends will be able not only to compile the table of contents, but also to complete the fourth part by additional matter on geology, meteorology, and the geography of plants.' There is every reason to rejoice that this plan was not carried out. The index might possibly have been compiled equally well by Buschmann from Humboldt's notes; but the work itself was, as we have seen, too strongly impressed with the individuality of the author for it to have been completed by any other hand. Nowhere perhaps has the individuality of the venerable author been more strongly impressed than in the introduction to the fifth volume, in which the acknowledgments of literary favours are measured out with a minuteness suitable only to a preface, and in which is included the extravagant testimony to the achievements of Buschmann, dictated no doubt by a good-humoured gratitude, since, whatever his merits may have been, he could have contributed nothing to the real value of 'Cosmos.' The same tender affection to his brother which led him to close the 'Survey of Nature' with a passage from his writings, instigated him also to conclude his great work with the following quotation from the elegy 'In der Sierra Morena': —

Denn wer die meisten Gestalten der vielfach umwohneten Erde,
 Die er vergleichend ersah, trägt im bewegenden Sinn,
 Wem sie die glühende Brust mit der fruchtbarsten Fülle durchwirken,
 Der hat des Lebens Quell tiefer und voller geschöpft.

It will doubtless be remembered that the 'Survey of Nature,' which forms the major part of the first two volumes of 'Cosmos,' was described by Humboldt to Varnhagen in 1834 as 'the most important part of the work.' The specific portion was intended at that time to occupy but a subordinate position, serving merely to add completeness without reverting to all the facts previously mentioned, or entering upon any subject already discussed. To this resolution, however, the author did not adhere, as the material continued to grow under his hand; the empiricism of the age is everywhere apparent, while of the graces of composition prominent in the 'Survey of Nature' there is scarcely a trace; the interest of the subject is paramount, and throws into the shade mere forms of expression. On this account the later volumes present little that is peculiarly characteristic of Humboldt: the 'Cosmos' of 1845-7 could only have been conceived and written by Alexander von Humboldt; the plan of a specific description of the physical universe, as carried out in the third volume, might have originated with any of our modern men of science, and in its execution not merely one or two, but the whole of the present generation of scientific men have taken part. It would not, in fact, be too much to say that the specific portions of 'Cosmos' are to the 'Survey of Nature' what the Pandects are to the Institutes in Corpus Juris; they are the incomplete pandects of science, so far as science had been developed in the middle of the nineteenth century, and, like that digest of laws, are composed merely of isolated data on the subjects in question gathered from various authorities and put together after the fashion of a mosaic. Humboldt shows himself therein as perhaps the greatest compiler that has ever existed, distinguished alike for industry, caution, accuracy, and comprehensiveness. A few instances will suffice to justify these remarks.

Even in the least speculative parts of 'Cosmos' Humboldt was never oblivious of the gradual development of science; in the notes, especially in those to the later volumes, much space

is occupied by these historical references, of which the greater number are from classical authorities. Each and all of these were subjected to the critical examination of some well-read philologist, Böckh being perhaps the most frequently appealed to. Much of the voluminous correspondence between him and Humboldt, who justly looked up to him as his 'master' in philology, consists of a series of questions and answers on the literature and science of the ancients. Humboldt had undoubtedly from early youth been well versed in classic literature, but he was not able either to trust his memory or his accurate rendering of a passage sufficiently to dispense with summoning Böckh to his aid in every detail. Humboldt's letters abound with expressions like the following:—'Without your revision of these pages I shall have no security, nor enjoy any peace'—'a thousand thanks for the patience with which you have cleansed my Augean stable'—'I have quite an autographic collection, my dear friend, of the valuable remarks you have sent me concerning the *Mécanique céleste* of the Greeks.' Warm expressions of thanks and apologies for being so 'troublesome' frequently occur. Even quotations from Plato are sent to Böckh for revision, since Humboldt 'possessed but few of the classics, and most of the quotations had been written down many years before.' Again and again the same sheet is sent with the inquiry:—'Is it now all harmless?' once even, 'Is there anything rebellious?' and at last always 'Is it in perfect order?' 'I know I am safe in adopting every amendment of Böckh's,' he writes, 'so pray, dear Buschmann, see that his corrections are carried out in the other sheets; they are mostly pedantries. Hb.' But Humboldt rarely relied entirely upon one opinion; he would bring the same inquiry before everyone he could get hold of who was an authority on the subject, and would direct the same query to several of his friends at once, or to each in succession, often consulting one concerning the opinion of another. Hence arose the simultaneous quotation of various authorities of unequal value, for which he was reproached by Bessel, and in which he exhibits his own want of self-reliance. In December, 1850, he writes to Böckh:—'Do not smile at the four etymologies I give of Sirius in p. 206. With my characteristic inquisitiveness, I consulted four persons—Lepsius,

Franz, Bopp, and Max Müller—therefore three would infallibly have taken it amiss had I only inserted the opinion of one.’

This procedure may after all appear but natural in philological subjects, which came not within Humboldt’s own province of study, but he adopted precisely the same line of conduct in regard to scientific subjects. In these even he is, to a certain extent, but the superintendent and arranger of work, allotting to each labourer his appointed task. His demands taxed most heavily his friends at Berlin: late in the night he writes to Gustav Rose, urging him for a speedy reply to a query with the impatient exclamation: ‘The dead and the aged ride fast!’ He repeatedly requests Dove to send him a pamphlet he had mislaid, or to come and see him at once for the sake of explaining some passages in his writings which seemed to Humboldt obscure. All numerical tables were submitted to the Berlin astronomers, as he dared not rely upon ‘one so incorrect and superannuated.’ On these subjects he was also very submissive:—‘I shall be very happy to make any alteration you may suggest; I may very probably be in error.’ In these solicitations, as in everything else, he shows himself the wily diplomatist; in deference to Galle, in whom he thought he detected some ‘religious sentimentality,’ he struck out the word mystic, which he had certainly not made use of in any sense offensive to religion. In writing to him, Humboldt, contrary to his usual practice, makes frequent allusion to the Divine Being, and His ‘omnipotence,’ occasionally adopting such expressions as ‘sinful.’ It is unnecessary again to allude to the flattering expressions with which he was accustomed to overwhelm all from whom he sought assistance. His letters would not unfrequently commence with sentences like the following:—‘Dearest friend, colleague, and instructor,—If one could only boast of anything so glorious as your achievements’ His appeals for assistance were by no means confined to his friends at Berlin; far and wide beyond the boundaries of Prussia he was accustomed to send the proof-sheets. We have seen how delicately the office of critic was disowned by Bessel, although he willingly performed its duties. To Arago Humboldt once wrote: ‘—‘I have a swarm of fire-flies in my head, and if you do not succeed in driving

¹ De la Roquette, vol. i. p. 225.

them away I shall be committing myself to the most stupid nonsense in "Cosmos"—while revering and quoting you in every page.'

No one acquainted with his love of accuracy will for a moment suppose that, in availing himself of the aid of others, he sought to appropriate any of their labours; every page of 'Cosmos' controverts such an idea. We have seen that the whole work, especially the notes, was consecrated by Humboldt into a sort of Pantheon for all to whom he was in any way indebted. When making a trifling inquiry from Dirichlet, he adds:—'Tell me in your reply whether I ought to mention your name, or whether, as it is so elementary, you would rather that amount of wisdom should appear to come from me.' In a note to Bellermann, the landscape painter, to whom he had given, in 1842, a letter of recommendation to all citizens of Venezuela, he writes:—'Pray send me your name in full, as I wish to make favourable mention of you in the new volume of "Cosmos" in connection with Rugendas.' As these lines were written in Humboldt's usual style of illegible hieroglyphics, Bellermann, who doubted not they contained one of the usual technical inquiries, would not trust himself to decipher it in a hurry, but told the messenger he would think over the subject, and send his Excellency an answer in the morning. Humboldt's custom of submitting the proof-sheets to the inspection of his friends, in order that they might see the passages bearing any reference to themselves, was liable to give rise to serious errors, as may be seen from the following lamentable letter to Tieck, written early in 1848¹:—

'I am writing these lines, my dear friend, most uncomfortably in bed, where I have been confined for some days with an attack of rheumatism, and I therefore fear that my writing will be more illegible even than usual. Your letter has grieved me sadly; it is the first trouble I have experienced since my return to my native country. Why should I be subjected all at once to such a suspicion who have never ceased to rejoice in your presence among us—a pleasure which has never known a shade, not even when the ancient tragic poet²

¹ 'Briefe an Ludwig Tieck,' edited by Karl von Holtei, vol. ii. p. 34.

² Allusion to the revival of 'Antigone.'

appeared between us as a threatening cloud accusing me of injustice towards you and the king? I must have read out to you from the proof something of a more flattering nature than appears in "Cosmos." My memory does not serve me for anything more, the proof-sheets are destroyed (there were no revises, for Cotta allows me to have eight or ten sheets printed off at once, and I make alterations up to the last minute from the remarks written on the margin), neither can Professor Buschmann recall any alterations, but he is going to see if in the older manuscripts there are any *variantes lectiones*. I am proud of your "distinguished friendship," and of being indebted to the "most profound critic of dramatic literature." Whether, in the final marginal corrections, which may have been overlooked, I intensified the words "profound" and "distinguished," I cannot now recall, for I pass my days among proof-sheets, and have the feeling that the three leading minds of our country, Goethe, Tieck, and Schiller, can scarcely gain glory by epithets. The two volumes of "Cosmos" are stereotyped, and in six weeks 10,000 copies of the second volume were struck off, but alterations can be made in the stereotype plates. Along with the third volume will be published a second edition of the first two volumes. Should your memory be less treacherous than mine, I beseech you, my dearest friend, send me the words omitted: we will certainly have them reinstated. Deceit or malice are out of the question. It seems as if an evil apparition or some frightful nightmare threatened to destroy our friendship.'

Much ado about nothing, and much that is disgraceful to both parties. It is difficult to decide which is the most paltry; the miserable vanity of Tieck, or Humboldt's weak anxiety for reconciliation, for the sake of which he was not ashamed to place this romanticist side by side with the two great classic writers of Germany. But when language, which is inalienable in its truth, is regarded as an article of merchandise, it is but one step further to degrade it by bargaining and cheapening like a tradesman.¹

We shall gain the best idea of the method employed by Humboldt in the compilation of 'Cosmos' by casting a glance

¹ The passage, however, in 'Cosmos,' vol. ii. p. 62, remained unaltered.

into one of those capacious pasteboard boxes, three of which are represented at his feet in the small water-colour drawing of Hildebrandt's, exhibiting an accurate representation of Humboldt's study during the compilation of the third volume of 'Cosmos.'¹ He had more than a dozen of these boxes, each labelled with a comprehensive description of the contents, such as: 'Isothermal Lines (not arranged), numerical data,' 'Geographical Distribution of Plants and Animals,' &c. The contents of these were sorted into cases and portfolios labelled according to the division of the subject; for instance, Box III. inscribed: 'This has all been used in the third volume of "Cosmos"; astronomica,' is filled with memoranda classified as follows:—'Telescopic Vision, Instruments—Velocity of Light—Photometry—Number of the Fixed Stars—Single Stars—Stellar Clusters—Milky Way and Magellanic Clouds—Chinese Observations, Star of Hipparchus—New Stars—Dark Masses (Bessel),' &c. &c. Strange remarks are often appended to these titles, for example 'black spots;' 'Holes? a world of *apparitions*;' last letter from John Herschel, 'only *one* coal-sack.' Interspersed with these are a thousand heterogeneous comments, such as the derisive lines upon Berlin, already cited;² but his feelings for the most part find expression in brief exclamations, as 'Patria,' or 'Alas, Patria!' deeply underlined or followed by notes of admiration. The portfolios contained numerous memoranda upon the subjects in question, quotations, statistical data, as well as hints for further investigation; as for instance: 'It is stated somewhere by the Greeks that plants are motionless animals!'—These scraps of paper, of every variety of form, are pasted together by the dozen, the corner of one being fastened either over or under its neighbour, so as to form the most wonderful serpent-like structure of erudition. Many are marked 'already used,' 'very important,' or 'immediate!' while some are inscribed 'Material for a new edition of "Cosmos."' At every turn we are struck by the thought how much the labours of others have contributed to the compilation of this great work.

Letters of scientific import from all parts of the world lie

¹ See 'Briefe an Bunsen,' p. 147.

² Vol. ii. p. 90.

side by side with fragmentary passages, systematically arranged according to the subject; along with these are various printed treatises, besides notices of others. The names of friends are carefully registered in connection with the points on which their assistance will be required. Upon the portfolio marked 'Nebulæ' is inscribed: 'The enclosed from letters from Lord Rosse;' under the designation 'Atmospheric Optics' he has added: 'Nearly all from Arago; Arago, valuable.' Such epithets are frequently repeated with increasing emphasis: 'The Atmosphere, of value, from Dove—Dove, valuable list of all his works to 1856—Dove, the most important is the passage translated from "Annuaire de France," de Martins, 1850, pp. 301–321; cardinal point against me in p. 320.'—'Rocks. A treasure from L. von Buch, but not the pearl.—The pearl from Buch: Superposition of Rocks—Leopold von Buch, highly important, the *pearl*!—Stratification, a *pearl*—Geological formations; last conversation with L. von Buch, June 1851: I possess nothing more valuable, this is the *pearl*!—Finished, approved by Buch, June 1851, *approved*!' &c.

How much labour was necessary ere a chapter could be considered 'finished' and 'approved'! From the slow progress of the colossal work, during which the boundaries of science were being continually enlarged, passages which had been already verified more than once must often have been reconstructed so as to receive new data. The scientific compilation of the work must therefore have proved no less laborious than the literary composition to which our attention has already been directed. Literary niceties were not, however, entirely neglected in the later volumes. Although the style of the concluding portion is made subservient to the purely scientific object of the work, and in comparison with the 'Survey of Nature' is wholly free from 'pathos'—there are passages, as, for example, the one Humboldt cited to Varnhagen upon the influence of the Moon, which are beautiful in their simplicity¹—great care has nevertheless been bestowed upon the choice of expressions, especially in the selection of contrasting synonyms, in which he derived assistance from a work, 'as excellent

¹ 'Kosmos,' vol. iv. p. 511. 'Briefe an Varnhagen,' No. 140.

and as irrational' as the French book of synonyms which had once been 'recommended by the Abbé Delisle.'¹

While in the compilation of the first two volumes the outlines already existed in the notes of the lectures delivered in 1827, there was wanting for the latter volumes even this meagre guide. These were composed straight off, a sheet and a half at a time, and were written on small pieces of paper, whence they were transcribed for the press by Buschmann. This complete reconstruction, 'scarcely two months before going to press,' indispensable in a work purporting to give a 'picture of the state of science in the middle of the nineteenth century, embracing not only accepted views and theories most deserving attention, but numerical data of all kinds, given with the greatest attainable accuracy,' was undoubtedly the cause of that admirable freshness² which must ever be a subject of wonder in a production of extreme old age; it is, however, to this editorial process that is to be ascribed the unfinished condition of the work, reminding one of a torso. As the mortal remains of the distinguished author were being conveyed to the Cathedral on May 10, 1859, there arrived from Stuttgart the proof-sheets of the manuscript that had been forwarded on April 19; but, unfortunately, no clue existed to guide another hand in completing the work from the material collected.³

Nevertheless, though unfinished, not perfectly homogeneous, displaying a want of adjustment between the claims of science and the elegancies of literature, and now to some extent obsolete, 'Cosmos' yet remains an unrivalled production. We are not, however, to associate exclusively with this work the grand generalisations and unity of science constituting its main features; these ideas would undoubtedly have found expression had 'Cosmos' never been written, and had, in fact, been broached by Humboldt long before even the first volumes had appeared. The book stands out unquestionably as the most comprehensive compendium of modern science, and as the most complete history of its development that has ever been at-

¹ 'Briefe an Varnhagen,' No. 17. See 'Kosmos,' vol. v. pp. 131-4.

² 'Briefe an Bunsen,' p. 139.

³ Buschmann in 'Kosmos,' vol. v. p. 99, &c.

tempted. 'In collecting material,' remarks Humboldt, in alluding to the astronomical portion,¹ 'I have taken down notes from the lips of Laplace, Arago, Davy, and Wollaston, and in later times from Bessel, Encke, Argelander, and Melloni. Thanks to my love of knowledge, few men have reaped so largely from intercourse with their illustrious contemporaries in the space of sixty-two years; for so long is it since, through George Forster, I was led to make acquaintance with the giants of a former age, Sir Joseph Banks, Cavendish, and William Herschel. Both the text and the numerous notes bear witness to my industry, love of truth, and readiness to acknowledge the services of those who have assisted me.' In these words there is no exaggeration; they exhibit with great modesty the value of 'Cosmos' as a record of science and intellectual progress. As in the great Code of Justinian, to which we have already compared it, the historical value would remain unimpaired, even if not one of the principles there laid down found recognition in the present day, so 'Cosmos' will ever remain a valuable record of the history of science, and of its stage of development, during the period from the close of the eighteenth to the middle of the nineteenth century. The more Humboldt availed himself of the labour of others, the more complete on this very account did his work become. It is very remarkable how, in collecting material, he made precisely the same use of his own productions as he did of the writings of his friends; it is clearly evident from 'Cosmos' that with the 'Examen critique' Humboldt's power of originality became exhausted, and that in physics he produced nothing new after he left Paris. In later years, while engaged in collecting, arranging, sifting, and compiling in preparation for this work, he was accustomed to refer to his own early investigations and writings with the same readiness, and to accord them the same authority, that he yielded to the researches of Arago or Leopold von Buch.

With a just sense of the value given to 'Cosmos' by this record of the actual condition of science, Humboldt wrote to his publisher, on December 15, 1850:—'On account of the mass of material contained in "Cosmos," the most valuable por-

¹ 'Briefe an Bunzen,' p. 139.

tion is the register of scientific facts.'¹ In a similar spirit Brandes, in presenting Humboldt with the second volume of his 'Aristotle,' calls him 'the greatest living maestro di color chi sanno.' Of the third volume of 'Cosmos,' in which there was scarcely anything strictly original, an astronomer like Arge-lander could, from his own peculiar standpoint, give expression, without supposed exaggeration, to the following opinion:— 'The book is described by your Excellency as a popular treatise on astronomy; popular, certainly, in the sense of being well adapted for spreading a love of astronomy and an admiration for the wonders of creation among the people, but not popular in the sense of those popular writings which would at once be laid aside by the initiated from the conviction that they contained nothing new. Apart from the magnificent arrangement of the mass of material, in which, by a judicious grouping and discrimination of facts, you display, to an unrivalled degree, the art of fascinating the reader, and alluring him to deeper thought, your book contains so much new matter, and old matter not generally known, that in this branch of science it must yield to every astronomer a vast amount of information: I at least have learned a great deal from your work, and have received many suggestions for new fields of research, concerning which I can only regret that I am unable to follow them up.'

Humboldt strongly insisted upon the difference between his own 'popular astronomy' and the ordinary made-up book compiled at second or third hand. To Jacobi, who had reproached him for quoting too frequently from Mädler, he replied:— 'I have ventured upon so much self-praise, because I set too much store by your opinion not to be glad to show that my book is not a compendium from Mädler and Sir John Herschel, but contains original matter.' He never looked with favour upon any popularisation of this work; on seeing the announcement that Mädler had been giving twelve lectures on the third volume of 'Cosmos' at Dorpat, 'before an enthusiastic audience,' he remarked:— 'Such *executions*, dissections of the living subject, are not a cheering spectacle! Few books can stand it.' With yet greater severity does Leopold von Buch satirise, in writing to Humboldt from Amsterdam, October 19,

¹ 'Kosmos,' vol. v. p. 127.

1848, the undertaking of Cotta, the geologist, to publish a series of letters upon 'Cosmos':—'Bernhard Cotta has been making water-gruel of "Cosmos;" what kind of salt does he put in? Epsom salts, or incrustating and petrifying gypsum?'

The question here again comes before us as to the possibility of popularising science. A quarter of a century had elapsed since the delivery of the lectures upon physical geography when the cultivated society of Europe was carried away by the senseless infatuation of table-turning. The first volumes of 'Cosmos' had been promulgated in numbers of lectures; there was no name so popular, so renowned, and so universally esteemed as that of Humboldt; science, as the foundation of the modern materialistic civilisation, had become the pride of the age—and yet, in 1853, the ravages of an intellectual epidemic wrung from the amiable Faraday the despairing outcry:¹ 'What a weak, credulous, incredulous, unbelieving, superstitious, bold, frightened—what a ridiculous world ours is, as far as concerns the mind of man! How full of inconsistencies, contradictions, and absurdities it is!' Humboldt at first was inclined to view the affair, as was his wont, in a humorous light, and did not care 'to disgust the children with their toy.' 'In the wearisome dulness of the present age,' he wrote to Carus on April 19, 1853, 'I would not disturb such a harmless pleasure.' The rapid growth, however, of this universal infatuation soon led him to view it in a more serious light. In a letter to Gauss of May 5, he remarks:—'And then the arithmetical spirit-rappings, the capricious animation of pieces of wood, stones, and tables, which "can be broken in like dogs, and made subservient to the will of man," together with the whole nonsense of science for the million, fostered by the presumptuous superficial knowledge of the so-called upper classes. "If you deny table-turning," I am told, "you must also deny that heat is felt on contact with the south pole of a magnet and cold with the north pole."' On May 10, Gauss sent the following admirable reply:—'I have viewed with tolerable indifference the reigning folly of the day, and have even laughed heartily over some of the exhibitions, especially the table-turning experiments of the Heidelberg professors.

¹ H. W. Dove's 'Gedächtnissrede auf A. v. Humboldt,' p. 12.

I have long been accustomed to set small value on the kind of learning likely to be acquired by the so-called upper classes, through the reading of popular treatises or the attendance at popular lectures. I am much more of the opinion that in scientific subjects a satisfactory insight can be gained only by the application of a certain amount of personal effort, in addition to the exertion of the lecturer.' These remarks were not lost upon Humboldt. In a letter to Dirichlet on May 16, he writes :—' I hear from Bunsen that Brewster and Herschel are quite unhappy about the insane infatuation which has seized the fashionable world of London for animating bits of wood by spiritualism, and making oracles of table-legs. Gauss tells me the evil is to be ascribed to the weak dilution of science contained in the popular books and lectures of the day, which, remaining undigested in the public mind, give rise to this form of disease. I am daily inundated with pamphlets, and write indignant letters to no purpose to every quarter of the globe. Gauss proposes to make Foucault's theory readily apparent by means of an apparatus. Cela me touche peu; in Berlin, for four thalers, you may learn that the Bible does not lie!' Again in November Humboldt writes to Dove :—' We hear more than ever of the talking tables, which will soon be taking the place of juries. Candle-snuffers, under the influence of the spirits, will be composing sonnets and odes.'

The whole of this sad yet ludicrous affair has an aspect of greater seriousness than at first appears. It proves that the world was not yet ripe for works which, like 'Cosmos,' were of a popular character in the highest sense of the term: the 'public,' to whom it was addressed—that is to say, the educated classes—and this not only in Germany—were by no means prepared for the due reception of such mental food. The public by whom the 'popular character of "Cosmos"' was warmly greeted consisted almost exclusively of scientific men, who hoped, as Gauss expressed himself with regard to geology, thus to 'learn the progress of knowledge in branches of science outside their own restricted field of labour;' they all 'wished to learn, and they had learnt from the book,' as Bessel and Argelander both asserted, for they knew well how to profit by the information they derived. For the 'higher classes, as they are

termed,' with their 'superficial education, as well as for the fashionable world,' 'Cosmos' was premature; to later generations, who, according to the views expressed by Humboldt and Bessel in 1828, shall have received a more 'judicious education,' is reserved the privilege of fully appreciating a work of which not the least merit consists in its having, from its attractive form, created the need of elementary instruction worthy of the present century in philosophical and practical science. Of the union of these elements of instruction desired by all interested in education, whether practically or theoretically, 'Cosmos' presented a model hitherto unrivalled.

It is worthy of remark that of the other writings of Humboldt that date from this period, there are none that can lay claim to the freshness so noticeable in 'Cosmos.' Through Cotta he brought out, in 1853, a volume of 'Miscellaneous Writings,' to be followed by a second volume, which however never made its appearance. The work consists, as the title suggests, of a reprint of former treatises upon geology and physics, written between the years 1805-43, but which, according to Humboldt's usual custom, he had brought up to the modern state of science, partly through his own indefatigable industry as in the paper upon the Mean Height of the Continents, reprinted from the 'Asie centrale,' and partly through the assistance of friends, as in the treatise upon the Distribution of Heat. This work, published in the form of a moderately thick octavo, met with a warm reception from the public; the geological description of the volcano of Pichincha, occupying the first hundred pages, was entirely new matter, and of the other papers few had enjoyed more than a limited circulation in various French and German periodicals; the work possessed besides the additional attraction of a small atlas, containing nine magnificent outlines of the volcanoes of the Cordilleras of Quito and Mexico, of which the first represented the beautiful Cerro del Altar, drawn from a sketch of Humboldt's by Schinkel, the last work of this noted artist 'before his premature and much lamented death.'¹ The work, together with the atlas, was dedicated by Humboldt in January 1853 'to the greatest geologist of his day, the ingenious investigator of Nature, Leopold von

¹ 'Kleinere Schriften,' p. 402.

Buch,' as a 'memento of a friendship which had been enjoyed uninterruptedly for sixty years.' The last expression is without doubt an hyperbole; there had been occasions in which Buch and Humboldt, great as was their mutual esteem, had been seriously at variance—an event which was not to be wondered at in view of their contrariety of character and temperament.

Of other labours at this epoch we need scarcely make further mention, as the most important of them, the appendix to the 'Examen critique' and the third edition of the 'Aspects of Nature,' have been previously alluded to. His letter to Élie de Beaumont, printed in the 'Comptes rendus,' 1855, 'Sur les Sociétés de Météorologie et les Observations météorologiques,' although inferior in importance to the circular he drew up in 1836, nevertheless possesses some interest as a record of Humboldt's endeavours—albeit unsuccessful—to secure the adoption in France of some of the arrangements that had been carried out with good results in Germany: he insisted strongly upon the separation of meteorological from astronomical observatories, and expressed grave doubts as to the utility of telegraphing meteorological phenomena, a plan which, from its central position, France intended to adopt. 'Telegraphic meteorology will create even more confusion,' he facetiously remarked, 'than telegraphic diplomacy.' In this he certainly went too far. Among Humboldt's literary labours of this date, we have yet to mention the introductions he wrote for the works of others, an undertaking for which he had hitherto shown so much disinclination, as never to have acceded to any such request, except in the case of the French edition of Buch's 'Journey to the North Cape,' and Sir Robert Schomburgk's narrative of his enterprise in Guiana. In the period now before us, however, there followed in quick succession the masterly 'Introduction' to the works of Arago, written in November 1853, to which we have referred in the previous chapter: the appropriate and feeling preface affixed to the 'Reminiscences of a Tour in India,' December 1854, by the late Prince Waldemar; the valuable 'Introduction' to Möllhausen's 'Travels,' in June 1856, in which the principal outlines are graphically laid down for a history of civilisation in America, and finally the preface he wrote on March 26, 1859, scarcely seven

weeks before his death, to Hauff's translation of the 'Relation historique,' the only German edition to which he gave his sanction. To these works he was urged by motives of friendship or kind feeling, by warm personal regard for Arago, and by a sense of respectful sympathy with the family of Prince Waldeemar; towards Möllhausen, the son-in-law of Seifert, he was anxious to testify the warm interest he ever felt in his devoted attendant, while in the introductory remarks to Hauff's work he comments upon the pleasure he experienced 'in being privileged to witness the narrative of the journey that had been prosecuted in the enthusiasm of youth rendered into his own beautiful language, and in this form perused by his fellow-countrymen, who for more than two generations had followed with gratifying interest his scientific investigations, and had even for his latest works evinced a sympathetic appreciation.'

With these slighter works may also be reckoned the 'Hints upon Physics and Geology,' written in April 1857, at the request of the Archduke Maximilian, for the expedition of the frigate 'Novara'¹—a composition with no merit in grace of style, but valuable for the information conveyed, not in the form of instruction such as he had formerly drawn up for French and English expeditions, but in simple advice to less experienced travellers, in connection principally with his favourite subject of volcanoes. The papers of slighter moment printed during these years for private circulation—as, for instance, public addresses and memorial notices—are scarcely to be regarded as works, and deserve mention only in connection with the description of his daily routine—to which we now propose directing our attention.

This perhaps can scarcely be better done than by introducing the well-known narrative, contributed to the 'New York Tribune,' of a visit paid to Humboldt by the American traveller, Bayard Taylor, on November 25, 1856:²—

'I came to Berlin, not to visit its museums and galleries, its magnificent street of lindens, its operas and theatres, nor to

¹ 'Reise des österreich. Fregatte "Novara"' (Vienna, 1861), vol. i. Appendix I. and II.

² [See also 'At Home and Abroad,' by Bayard Taylor. First Series (G. P. Putnam, New York, 1860).]

minge in the gay life of its streets and salons, but for the sake of seeing and speaking with the world's greatest living man—Alexander von Humboldt.

‘At that time, with his great age and his universal renown, regarded as a throned monarch in the world of science, his friends were obliged, perforce, to protect him from the exhaustive homage of his thousands of subjects, and for his own sake, to make difficult the ways of access to him. The friend and familiar companion of the king, he might be said, equally, to hold his own court, with the privilege, however, of at any time breaking through the formalities which only self-defence had rendered necessary. Some of my works, I knew, had found their way into his hands: I was at the beginning of a journey which would probably lead me through regions which his feet had traversed and his genius illustrated, and it was not merely a natural curiosity which attracted me towards him. I followed the advice of some German friends, and made use of no mediatory influence, but simply despatched a note to him, stating my name and object, and asking for an interview.

‘Three days afterwards I received through the city post a reply in his own hand, stating that, although he was suffering from a cold which had followed his removal from Potsdam to the capital, he would willingly receive me, and appointed one o’clock the next day for the visit. I was punctual to the minute, and reached his residence in the Oranienburger-Strasse as the clock struck. While in Berlin he lived with his servant. Seifert, whose name only I found on the door. It was a plain two-story house, with a dull pink front, and inhabited, like most of the houses in German cities, by two or three families. The bell-wire over Seifert’s name came from the second story. I pulled; the heavy *porte-cochère* opened of itself, and I mounted the steps until I reached a second bell-pull, over a plate inscribed, “Alexander von Humboldt.”

‘A stout square-faced man of about fifty, whom I at once recognised as Seifert, opened the door for me. “Are you Herr Taylor?” he asked; and added, on receiving my reply: “His Excellency is ready to receive you.” He ushered me into a room filled with stuffed birds and other objects of natural

history, then into a large library, which apparently contained the gifts of authors, artists, and men of science. I walked between two long tables, heaped with sumptuous folios, to the further door, which opened into the study. Those who have seen the admirable coloured lithograph of Hildebrandt's picture know precisely how the room looks. There was the plain table, the writing-desk, covered with letters and manuscripts, the little green sofa, and the same maps and pictures on the drab-coloured walls. The picture had been so long hanging in my own room at home, that I at once recognised each particular object.

'Seifert went to an inner door, announced my name, and Humboldt immediately appeared. He came up to me with a heartiness and cordiality which made me feel that I was in the presence of a friend, gave me his hand, and inquired whether we should converse in English or German. "Your letter," said he, "was that of a German, and you must certainly speak the language familiarly; but I am also in the constant habit of using English." He insisted on my taking one end of the green sofa, observing that he rarely sat upon it himself, then drew up a plain cane-bottomed chair and seated himself beside it, asking me to speak a little louder than usual, as his hearing was not so acute as formerly.

'As I looked at the majestic old man, the line of Tennyson, describing Wellington, came into my mind:—

Oh, good grey head, which all men knew.

The first impression made by Humboldt's face was that of a broad and genial humanity. His massive brow, heavy with the gathered wisdom of nearly a century, bent forward and overhung his breast, like a ripe ear of corn, but as you looked below it, a pair of clear blue eyes, almost as bright and steady as a child's, met your own. In those eyes you read that trust in man, that immortal youth of the heart, which made the snows of eighty-seven winters lie so lightly upon his head. You trusted him utterly at the first glance, and you felt that he would trust you, if you were worthy of it. I had approached him with a natural feeling of reverence, but in five minutes I found that I loved him, and could talk with him as freely as

with a friend of my own age. His nose, mouth, and chin had the heavy Teutonic character, whose genuine type always expresses an honest simplicity and directness.

‘I was most surprised by the youthful character of his face. I knew that he had been frequently indisposed during the year, and had been told that he was beginning to show the marks of his extreme age, but I should not have suspected him of being over seventy-five. His wrinkles were few and small, and his skin had a smoothness and delicacy rarely seen in old men. His hair, although snow-white, was still abundant, his step slow but firm, and his manner active almost to restlessness. He slept but four hours out of the twenty-four, read and replied to his daily rain of letters, and suffered no single occurrence of the least interest in any part of the world to escape his attention. I could not perceive that his memory, the first mental faculty to show decay, was at all impaired. He talked rapidly, with the greatest apparent ease, never hesitating for a word, whether in English or German, and, in fact, seemed to be unconscious which language he was using, as he changed five or six times in the course of the conversation. He did not remain in his chair more than ten minutes at a time, frequently getting up and walking about the room, now and then pointing to a picture or opening a book to illustrate some remark.

‘He began by referring to my winter journey into Lapland. “Why do you choose the winter?” he asked; “your experiences will be very interesting, it is true, but will you not suffer from the severe cold?” “That remains to be seen,” I answered. “I have tried all climates except the Arctic, without the least injury. The last two years of my travels were spent in tropical countries, and now I have the wish to have the strongest possible contrast.” “That is quite natural,” he remarked, “and I can understand how your object in travel must lead you to seek such contrasts; but you must possess a remarkably healthy organisation.” “You doubtless know, from your own experience,” I said, “that nothing preserves a man’s vitality like travel.” “Very true,” he answered, “if it does not kill at the outset. For my part, I keep my health everywhere, like yourself. During five years in South America and the West

Indies, I passed through the midst of black vomit and yellow fever untouched."

'I spoke of my projected visit to Russia, and my desire to traverse the Russian-Tartar provinces of Central Asia. The Kirghiz steppes, he said, were very monotonous, fifty miles gave you the picture of a thousand; but the people were exceedingly interesting. If I desired to go there, I would have no difficulty in passing through them to the Chinese frontier; but the southern provinces of Siberia, he thought, would best repay me. The scenery among the Altai mountains was very grand. From his window, in one of the Siberian towns, he had counted eleven peaks, covered with eternal snow. The Kirghizes, he added, were among the few races whose habits had remained unchanged for thousands of years, and they had the remarkable peculiarity of combining a monastic with a nomadic life. They were partly Buddhist and partly Mussulman, and their monkish sects followed the different clans in their wanderings, carrying on their devotions in the encampments, inside of a sacred circle marked out by spears. He had seen their ceremonies, and was struck with their resemblance to those of the Catholic Church.

'Humboldt's recollection of the Altai mountains naturally led him to speak of the Andes:—"You have travelled in Mexico," said he; "do you not agree with me in the opinion that the finest mountains in the world are those single cones of perpetual snow rising out of the splendid vegetation of the tropics? The Himalayas, although loftier, can scarcely make an equal impression; they lie further to the north, without the belt of tropical growths, and their sides are dreary and sterile in comparison. You remember Orizaba," continued he; "here is an engraving from a rough sketch of mine. I hope you will find it correct." He rose and took down the illustrated folio which accompanied the last edition of his "Miscellaneous Writings," turned over the leaves, and recalled, at each plate, some reminiscence of his American travel. "I still think," he remarked, as he closed the book, "that Chimborazo is the grandest mountain in the world."

'Among the objects in his study was a living chameleon, in a box with a glass lid. The animal, which was about six inches long, was lazily dozing on a bed of sand, with a big blue-fly

(the unconscious provision for his dinner), perched upon his back. "He has just been sent to me from Smyrna," said Humboldt; "he is very listless and unconcerned in his manner." Just then the chameleon opened one of his long, tubular eyes, and looked up at us. "A peculiarity of this animal," he continued, "is its power of looking in different directions at the same time. He can turn one eye towards heaven, while with the other he inspects the earth. There are many clergymen who have the same power."

'After showing me some of Hildebrandt's water-colour drawings, he returned to his seat, and began to converse about American affairs, with which he seemed to be entirely familiar. He spoke with great admiration of Colonel Fremont, whose defeat he profoundly regretted. "But it is at least a most cheering sign," he said, "and an omen of good for your country, that more than a million of men supported by their votes a man of Fremont's character and achievements." With regard to Buchanan, he said: "I had occasion to speak of his Ostend manifesto not long since, in a letter which has been published, and I could not characterise its spirit by any milder term than *savage*." He also spoke of our authors, and inquired particularly after Washington Irving, whom he had once seen. I told him I had the fortune to know Mr. Irving, and had seen him not long before leaving New York. "He must be at least fifty years old," said Humboldt. "He is seventy," I answered, "but as young as ever." "Ah!" said he, "I have lived so long that I have almost lost the consciousness of time. I belong to the age of Jefferson and Gallatin, and I heard of Washington's death while travelling in South America."

'I have repeated but the smallest portion of his conversation, which flowed on in an uninterrupted stream of the richest knowledge. On recalling it to my mind, after leaving, I was surprised to find how great a number of subjects he had touched upon, and how much he had said, or seemed to have said—for he had the rare faculty of placing a subject in the clearest and most vivid light by a few luminous words—concerning each. He thought, as he talked, without effort. I should compare his brain to the fountain of Vaucluse—a still, deep, and tranquil pool, without a ripple on its surface, but creating a river by its

overflow. He asked me many questions, but did not always wait for an answer, the question itself suggesting some reminiscence, or some thought which he had evident pleasure in expressing. I sat or walked, following his movements, an eager listener, and speaking in alternate English and German, until the time which he had granted to me had expired. Seifert at length reappeared, and said to him, in a manner at once respectful and familiar, "It is time," and I took my leave.

"You have travelled much, and seen many ruins," said Humboldt, as he gave me his hand again; "now you have seen one more." "Not a ruin," I could not help replying, "but a pyramid." For I pressed the hand which had touched those of Frederick the Great, of Forster, the companion of Capt. Cook, of Klopstock and Schiller, of Pitt, Napoleon, Joséphine, the Marshals of the Empire, Jefferson, Hamilton, Wieland, Herder, Goethe, Cuvier, Laplace, Gay-Lussac, Beethoven, Walter Scott—in short, of every great man whom Europe has produced for three-quarters of a century. I looked into the eyes which had not only seen this living history of the world pass by, scene after scene, till the actors retired one by one, to return no more, but had beheld the cataract of Atures, and the forests of the Cassiquiare, Chimborazo, the Amazon, and Popocatepetl, the Altaian Alps of Siberia, the Tartar steppes, and the Caspian Sea. Such a splendid circle of experience well befitted a life of such generous devotion to science. I have never seen so sublime an example of old age—crowned with imperishable success, full of the ripest wisdom, cheered and sweetened by the noblest attributes of the heart. A ruin, indeed! No; a human temple, perfect as the Parthenon.

'As I was passing out through the cabinet of natural history, Seifert's voice arrested me. "I beg your pardon, sir," said he, "but do you know what this is?" pointing to the antlers of a Rocky Mountain elk. "Of course I do," said I, "I have helped to eat many of them." He then pointed out the other specimens, and took me into the library to show me some drawings by his son-in-law, Möllhausen, who had accompanied Lieutenant Whipple in his expedition to the Rocky Mountains. He also showed me a very elaborate specimen of bead-work in a gilt frame. "This," he said, "is the work of a Kirghiz princess, who

presented it to his Excellency when we were on our journey to Siberia." "You accompanied his Excellency then?" I asked. "Yes," said he; "*we* were there in '29." Seifert is justly proud of having shared for thirty or forty years the fortunes of his master. There was a ring, and a servant came in to announce a visitor. "Ah! the Prince Ypsilanti," said he: "don't let him in; don't let a single soul in; I must go and dress his Excellency. Sir, excuse me—yours most respectfully;" and there-with he bowed himself out. As I descended to the street, I passed Prince Ypsilanti on the stairs.'

Thus closes the graphic sketch of this vivacious enthusiast. He not unjustly applies to Humboldt, in the remarkable position he held in the opinion of all cultivated classes, the epithet 'throned monarch.' But here as in every other monarchical existence, appearance and reality were often strangely at variance, as will be seen by the sober history of this period, which forms a suggestive comment on the enthusiastic description of Bayard Taylor.

Humboldt must have unquestionably appeared to be the 'greatest living man' to anyone whose estimation was grounded solely on the number of outward signs of honourable distinction. It comes not within the province of this biography to enumerate the orders and decorations which had been conferred upon Humboldt—scarcely was there a European order which he had not the right to wear—still less can we give a list of the various societies, numbering more than a hundred and fifty, to which he had been elected, and which included the most celebrated Academies of the leading nations of Europe and America, not merely those of a purely scientific character, but any which had for their object the spread of education and the advancement of civilisation. Not only was there no Academy, but scarcely a learned society of which he was not at least an honorary member; repeatedly was he invested with the degree of Doctor in the three faculties. On all public occasions, inaugural meetings, or jubilee festivals, Humboldt was invariably the principal guest, and more than once during his long life was he called to assist in the celebration of his own achievements. As a type of these, we propose to give the following instances.

On August 4 and 5, 1844, a fête was given by the Academy of Berlin in celebration of the fortieth anniversary of Humboldt's return to Europe. To the enthusiastic address by Carl Ritter,¹ Humboldt modestly replied in the manner 'most appropriate to every position in life amid all the disenchantments of this world by the heartiest expression of thanks.' Still more marked was the homage paid him by the same Academy six years later, upon the fiftieth anniversary of his election as an honorary member. A special meeting was convened by Leopold von Buch in honour of this jubilee—announced at first by mistake for May 16 instead of August 4, 1850—for the purpose of inaugurating a bust of Humboldt in the hall of the Academy. We have now before us a heap of letters addressed to the secretary, in which Humboldt eagerly sought to escape the honour intended him, so painful to his modesty. On May 3, he writes to Encke:—'Your sympathy, my dear friend, will have already told you my trouble. In his generous enthusiasm, Leopold von Buch has forgotten that in giving, the feelings of the recipient must also be considered. I have not yet recovered the 14th of September last'—his eightieth birthday—'and the dreadful news I have heard to-day (the inauguration of a bust!') has upset me so much that I shall not be able to work for a month. I look to you to deliver me, my dear friend. Even the busts of statesmen are not placed in the council chamber till after death. . . . You will believe me capable of forming a judgment as to the value of scientific achievements. You may therefore imagine how overawed I am at the thought of Leibnitz.' His letter to Böckh of the same date is almost equally emphatic:—'A bust erected in my lifetime, and in the alarming neighbourhood of Leibnitz! . . . With every honour there comes an insult. . . . If I might only be allowed to die in peace.' On the following day he again 'implores' that a resolution so distasteful to his personal feelings might be abandoned, especially 'as concerning the legitimacy of these feelings he alone could be a judge. To an old man of eighty-one, so near death, it can but be a subject of grief and shame to see his bust erected by the Academy during his lifetime, and placed side by side with that of the

¹ See p. 214.

immortal discoverer of the Differential Calculus, while the celebrities of the generation who had past away—Kant, Euler, Lagrange, Lessing, and Bessel—had received no such distinction. The debt of gratitude he owes to his colleagues will not withhold him from maintaining and vindicating his personal feelings, upon which depend his tranquillity and capacity for work.'

Through these representations Humboldt succeeded in inducing the Academy to abandon the intention of arranging a special meeting for August 4, and to hold the jubilee in conjunction with the usual celebration in honour of Leibnitz on July 4, when the resolution for erecting his marble bust was to be made public, while the accomplishment was to be postponed until—as Böckh expressed it in his address—'the fate common to mankind, still it was to be hoped far distant, should remove him from our sight.' In accordance with the excellent maxim of 'Comparisons are odious,' Böckh,¹ in his address, abstained from any elaborate comparison between Humboldt and his 'alarming neighbour' Leibnitz, contenting himself with bringing out the parallel that both these distinguished men 'performed their duties as academicians in an ideal manner.' The indefatigable exertions and multifarious achievements of Humboldt were briefly but powerfully set forth. 'In him,' exclaims Böckh in conclusion, 'nature derives inspiration from the mind; through the power of the imagination and the graces of language, he invests reality with the charm of the ideal, which comes to us elders as a zephyr's breath from the days of our youth, when Alexander von Humboldt and his immortal brother lived in companionship with those by whom our classic literature was formed, and to whom the "Horen" and the "Charitinnen" were a channel of communication. Inspired with a deep sympathy for every human interest, he is lifted above the prejudices of his time and his position, participates in every noble effort, and acknowledges the achievements of others. To these qualities is added a frank expression of opinion, great independence of thought, mildness of demeanour, and indefatigable energy in securing the good of others. It will not therefore be inappropriate for me to conclude with the words

¹ 'Monatsberichte der Berl. Akad. d. Wiss.,' 1850, p. 247, see p. 322.

employed by the poet in eulogy of a mightier but certainly not a nobler man :

“ The joys he shed on all around, who could their number tell ! ”

This quotation from the second Olympian ode of Pindar, with which Böckh concludes, reflects so perfectly the elevated tone of his address that it would be superfluous to enter upon any critical examination of its details. Nine years later, on the Leibnitz anniversary of 1859, when, after the death of Humboldt, his bust was really inaugurated, the same orator once more reverts to the jubilant strains of the Greek poet, when comparing the deceased to ‘ the royal eagle of Jupiter,’ against whom ‘ the ravens croaked ’ in vain. Towards the close of his career it had become, in fact, a universal custom to greet him on every occasion as an Olympian victor. Humboldt, on his part, never failed to acknowledge with gratitude every tribute of praise. In writing to Böckh on July 26, he remarks :—‘ You will have received my official thanks to the Academy in a beautiful specimen of caligraphy. As, in accordance with the regulations of the Academy, it will no doubt be preserved, I was anxious it should form a small memento of our friendship.’ Another public expression of thanks was rendered by him to Böckh, as from a grateful pupil to a revered master, in the congratulatory address, already referred to, with which he greeted him on his jubilee held on March 15, 1857.¹ On August 4, 1850, the Academy presented their congratulations to Humboldt at Potsdam, by a deputation, and gave a dinner in his honour, at which, according to a promise he had exacted, there were to be ‘ no speeches.’

Unhappily, we have become accustomed to observe in Humboldt’s conduct a strange mixture of grandeur and littleness : in no action of his life was this contrast more obvious than in the manner in which he set aside the project of erecting his bust in the Academy of Berlin, and the course he adopted with regard to a similar proposal at the French Institute. Prince Demidoff, a corresponding member, in a fit of enthusiastic admiration, offered in 1856 to present a bust of Humboldt to

¹ See p. 220. Printed, besides other places, in Zimmermann’s ‘ Humboldt-buch,’ vol. i. p. 61, &c.

the Institute. The suggestion was acceded to, and Humboldt declared himself willing to sit to Rauch, upon whose death the work was completed by one of his pupils. In September, 1858, it was placed in the vestibule of the Institute, near the busts of Chateaubriand, Arago, &c. Although we may to some extent sympathise with Humboldt in his acquiescence to this proposition—notwithstanding the inconsistency such a course involved—we cannot but deeply regret that in a letter to Valenciennes he broke out in the bitterest complaints concerning the unworthy place that had been accorded him. While laying the chief stress upon the value of Rauch's sculpture as a work of art, which rendered it unsuitable to be placed among a number of mediocre productions, there is no disguising the feeling of wounded vanity dictating the complaints. Eventually the matter was arranged according to Humboldt's wishes; at a private sitting of the Institute convened by Élie de Beaumont, a resolution was passed by which the bust was placed in the library 'in one of the cabinets of the Academy, as the portrait of a valued and illustrious friend.' Valenciennes, when writing on November 26, 1858, to inform his patron of the circumstance, adds, after various complimentary phrases, that beautiful as the bust may be as a work of art, it yet fails to do justice to Humboldt's intellectual expression: indeed, so far does he push his unworthy flattery, that he concludes with the exclamation: 'Phidias alone could reproduce the God of Olympus!'

Nor were civic communities behind scientific societies in the honours they showered upon Humboldt. In 1849 he was elected a citizen of Potsdam, and in 1856 was presented with the freedom of the city of Berlin. According to his custom, he expressed his acknowledgments in both instances in a ceremonious address.¹ In view of his well-known aversion to Berlin, it is scarcely possible to restrain a smile while reading such expressions as: 'Words fail me to express the deep gratitude I feel towards this noble city, which has raised itself to be a worthy capital of this kingdom not only by its commercial industry but by its love of art.' But during the closing years of his life, in which he was the recipient of so many

¹ See 'Briefe an Varnhagen,' No. 171.

rs, he was frequently compelled to adopt the language of
erity. His studious avoidance of any connection with
eon III. has already been remarked ; when, however, the
ror, with delicate attention, conferred upon him in 1857
and cordon of the Legion of Honour, Humboldt, who had
declined any of the inferior steps of this order, found
lf obliged to express his thanks through Count Walewski
manner that sounds no less complimentary to Napoleon
a similar communication addressed once to the Emperor
las, to whom it had been as little the expression of sincere
g.

re consonant with his sympathies were the honours so
siastically bestowed by the citizens of the United States
merica. The Minister for War, John B. Floyd, wrote to
boldt from Washington on July 14, 1858 :—‘ Never can we
the services you have rendered not only to us but to all
orld. The name of Humboldt is not only a household
throughout our immense country, from the shores of the
tic to the waters of the Pacific, but we have honoured
lves by its use in many parts of our territory, so that
city will find it everywhere linked with the names of
ington, Jefferson, and Franklin.’ Accompanying this
was an album composed of nine maps, showing the
as localities to which his name had been affixed, among
were rivers, lakes, bays, streams, mountains, villages,
, and counties. In order to secure a gratification ‘ for
dies,’ American travellers were in the habit of ordering a
of Humboldt from Rauch, who could not fail to be struck
astonishment at the courage with which these transatlantic
llers ventured into Germany, and without knowing any but
own language, would make themselves perfectly at home.’
rtrait of Humboldt in oils was solicited by the Natural
ry Society of New York, with the warm assurance : ‘ There
name out of the calendar of our own country’s heroes
nen of worthy note more respected than that of Alexander
Humboldt. The most of your works are with us, and so
iar, that they are looked upon as almost belonging to and
t of us ; and long after you have passed away and life’s
tenement shall have crumbled with its mother earth, we

and our children of the West, who live in this blessed land of liberty, will reverence and revere the name which we now love so well.'

As we have been compelled to restrict ourselves, in enumerating the various official and semi-official expressions of admiration bestowed 'upon the crowned head' of science, to the most characteristic examples, so, in view of the thousand individual expressions of homage, from the monarch down to the school-master, country clergyman, or journalist, it is hopeless to attempt anything more than a general summary, lest the reader should be subjected to the same feeling of satiety and weariness by which Humboldt was often doubtless oppressed when his quiet hours for work were interrupted by this severe tax upon his fame.

We propose to cast a glance over the mass of letters and addresses received by Humboldt during the latter years of his life, and perhaps to take them in the confused order in which they lie will give the clearest idea of the harmony reigning throughout this chorus of praise addressed to the idol of the century. Ernst Moritz Arndt rejoices in being a contemporary of Humboldt, from whom he has always received tokens of friendship and goodwill, although their spheres of life had been widely separated—'wide as the starry heavens are from the confines of earth;' he presented him a 'bouquet of poems, for everything in nature, from the blossoming heath to man himself, rejoices in your kind and loving looks.' From Jacob Grimm he receives the following salutation:—'How noble is your conduct towards all the oppressed! At the court fête the other evening, after seeking you for some time in vain, I at length saw you in the long gallery going home, and could not even reach you to shake you by the hand. May you long be spared in your present vigour of body and mind.' Rückert 'implors Humboldt to do something in "Cosmos," suitable to his high position,' for the salvation of some one in misfortune. Rauch relates how in passing by the monument of Frederick the Great, on one occasion, his mind being 'occupied with Humboldt,' a train of pleasing reflections were awakened by the thought that 'those grand heroes on the monument of the Great King had stood sponsors to Humboldt,' and now from their lofty position

sent down a greeting to their still living and illustrious grandson, 'who was destined to win laurels no less imperishable upon the field of science.' One letter of warmest thanks comes from Ottilie von Goethe, who indeed declares she had never had occasion to write one of any other description; 'for if I do sometimes pen a few lines of request, it seems but as the first half of a letter, so soon is it followed by one of thanks, showing that your Excellency is ever ready to grant that which has scarcely even been asked. Wolf has been just now telling me, with so much emotion and gratitude that had he been your grandson you could not have done more for him, that I exclaimed: "Should I not then give thanks?"' Even Liszt and Caroline Princess Wittgenstein write to thank their 'benefactor.' Meyerbeer accompanies the 'traditional tea-cake,' which since the death of his mother he was accustomed to send every 14th of September for Humboldt's 'breakfast-table,' with the most extravagant praise of one in whom he 'honoured not only the immortal philosopher, but also the noble and benevolent benefactor of all his family,—and of himself in his professional career, from whom during a long series of years, in every important crisis of his life, he had received fatherly advice and assistance and the support of his kind protection. He blessed the day in which Heaven had granted to the world the great philosopher Alexander von Humboldt, who, equally great as the hero of science and the champion of all that is noblest and most intellectual, is at once an object of love and admiration to the whole world.' The congratulatory letters of Böckh, if more dignified in tone, are no less marked by the expression of enthusiastic feeling. 'A radiant gleam of hope is shed across these beclouded times through the life and labours of your Excellency, and I can scarcely realise the condition of Prussia should this star, alas! sink below the horizon. Through a merciful Providence, may this day be far distant!' On another occasion he speaks of Humboldt's birthday as 'a day sacred not merely to his relatives and nearest friends, but to all men of elevated feeling or scientific pursuits.' . . . 'That man must indeed be blessed for whose preservation in life the keenest interest is manifested not only by the scientific, or, to express it more comprehensively, the intellectual world, but

also by the political world, and indeed so far as it is able to realise it, by the whole human race.' Bunsen even celebrates the 14th of September, 1858, 'as a festival in which all the world was interested, in the spectacle of a man of the greatest intellect that had appeared for a couple of centuries entering upon his ninetieth year, in the full vigour of his powers, with a warm interest for all that is noble and elevated, not merely in his own country but throughout the world, and preserving undiminished love and sympathy for his personal friends' 'Humanity is ennobled when the divine instincts are brought out in man through the continued improvement and development of the intellectual powers.' The same occasion leads Metternich to cast an envious glance over Humboldt's career, 'which could terminate only in victory.' He could not but regard those as happy 'who were concerned with positive science rather than with the vacillating humour of political parties.' 'The support of a man like you,' writes Cavour, 'forms the highest reward that can be offered to a minister in return for his laborious efforts. The name of Alexander von Humboldt is as much venerated in Piedmont as in Germany.' 'The Museum at Berlin would have many charms for me,' writes Thiers in a short note, 'but my greatest pleasure would be in seeing you.' He refers¹ to Humboldt as 'the most illustrious savant of our century, whom we French have the vanity to regard as a Frenchman, imagining that he belongs as much to us as to Germany.'

How often, too, is Humboldt laid claim to by America, where he is continually designated as a second Columbus. From New Granada, Mexico, and Cuba came letters of grateful remembrance, requesting him to reply in Castilian, so that the answer may acquire a double value. From New York the assurance reaches him that 'the lofty Chimborazo is but *one* monument of his fame.' From far-off regions in the interior anonymous presents were sent; from the banks of the St. Lawrence and the Ohio, as well as from various parts of Europe, spiritually-minded persons wrote expressing their anxiety concerning the soul's welfare of one, for whose genius they cherished so high a veneration. For an artist about to cross the ocean, Carl Ritter

¹ 'Briefe an Varnhagen,' No. 211.

begs 'but for a *couple* of lines, signed by the name which, in *America*, carries so much weight.' Who is there in Germany to whom these letters of introduction were unfamiliar, the like of which neither pope nor emperor could write?—'I pray that all those in the United States, or other parts of the New World, who may yet retain any kind feeling towards me, or my labours upon America, will grant a kind reception to a friend distinguished'¹ . . . With such passports he smoothed the way for his protégés in every quarter of the globe, and received in return letters of grateful acknowledgment from every spot under the sun. 'For all that has rendered my stay so agreeable in Florence, Rome, and Naples, I am indebted to your Excellency,' writes Eduard Hildebrandt from Malta to Humboldt, who had termed him in 'Cosmos' the apostle of painters. 'Accept my heartiest thanks for your valuable letter of introduction,' he wrote upon another occasion from Hammerfest. 'Your circular letter has achieved wonders.' From Funchal, Schacht writes to assure Humboldt 'that his extremely kind letter of introduction has procured him everywhere a hearty reception.' Under the protection of this name, Ferdinand Bellermann travelled in Venezuela, and Tyrell Moore in New Granada. In South Australia Otto Schomburgh 'read with deep interest in a colonial paper' the account of the festival in honour of Humboldt's jubilee at the Academy; and a portrait of 'Humboldt in his library' was presented by Robert Schomburgh to the King of Siam, in order that it might be hung side by side with the portraits of Queen Victoria, Louis Napoleon, and the President of the United States. In uninhabited regions the works of Humboldt often yielded a solace to many a traveller. During the dreary hours of a Polar night they were frequently studied by Bedford Pim, and in the contemplation of Humboldt's fortitude his own gained strength; he wrote to request from Humboldt a few lines to insert in these works that they might become 'heirlooms in his family.' 'For nearly seven years,' writes G. Overbeck from Hong Kong, where he had, with several others, been celebrating Humboldt's birthday, 'have your writings been to me an unfailing source of varied

¹ 'Briefwechsel mit einem jungen Freunde,' p. 127. Similar passports are numerous. See Zimmermann's 'Humboldtbuch,' vol. ii. pp. 40, 41.

and valuable instruction, and my constant companions during extensive travels in America, the islands of the Pacific, and the Polar seas.' 'Nor is he a prophet unhonoured in his own country,' remarks Alfred Arago, from the banks of the Rhine, where the fame of his father's friend had everywhere smoothed his way. From Vienna Scherzer mentions that Avé-Lallemant has every chance of being selected for the expedition of the 'Novara,' in preference even to the two Bavarians, 'supported by the king's recommendation. From this circumstance your Excellency will perceive that your influence among the highest circles in Austria is very great, exceeding even that of royalty.' Through Humboldt's influence liberal preparations for the expedition of the brothers Schlagintweit were carried out in England, an expedition from which, on account of its aim having once been with him a favourite project, he formed great expectations—not destined, however, to be realised. Upon their arrival at Bombay the brothers wrote:—'It is as well known here as in England that to your Excellency alone is due the accomplishment of our expedition to India.'

We next come upon a heap of royal letters: they are invariably signed, whether by kings or queens, as 'your devoted friend,' and contain requests for 'a line of remembrance,' in proof 'of the goodwill upon which they set so much store.' While some of the letters are written for congratulation, others convey presentations of orders 'bestowed in hope of conferring lustre on the donors,' or 'to testify their love for science.' They are full of promises to honour his recommendations and grant his requests. While Leopold, King of the Belgians, enters into reminiscences, extending over fifty years, King Maximilian of Bavaria asks for a sketch of 'the best means whereby he can lend to science the same valuable assistance his father was able to grant to the arts.' A grand duke of literary associations is almost overwhelming in his expressions of veneration, while subscribing himself his 'most devoted servant' and 'grateful pupil.' A prince 'deferentially' presents to him his 'first work,' and a princess writes to her 'cher M. de Humboldt,' expressing her deep regret that she had been unable to speak to him at the court ball, and to wish him, at least by letter, a 'bonne nuit!'

What a countless number of poetical effusions, including some even in Greek and Hebrew! 'To the Dante of the Material Universe'—'Aspirations of an Investigator'—'Ode from the Georgians to Alexander von Humboldt'—'Words of Glowing Love addressed to A. v. H.'—'To Baron von Humboldt, the king of science, the latchet of whose shoes other kings are not worthy to unloose.' Next come a legion of begging letters, from the most delicately worded to the most outspoken; to these we will spare the reader any further reference. Then follow various plans and propositions, dictated either by folly or madness, half ridiculous, half sad.¹ But of this enough; the instances we have adduced suffice to show the position occupied by this 'throned monarch in the world of science.'

Not that Humboldt stood as the ruler of science itself, for science could never acknowledge any one absolute sovereign; the possession of Truth, and the search after her, is the natural right of all humanity. It was not as the oracle of theoretic science that Humboldt was appealed to in those thousand letters; for *one* query that was addressed to him he directed a hundred questions to others, especially during the latter years of his life. The royal position accorded to him may be said to have resembled that acquired by Cromwell as a statesman, and Napoleon as a conqueror, for it is through his achievements as a man of science that he rose to a position of distinction and influence among his contemporaries, enjoyed by few except those to whom it has come as a prerogative of birth. In this sense his kingdom stretched beyond the confines of any political monarchy until it compassed the whole civilised world. He was the object of universal homage, which found expression in words by those gifted with rank or intellectual superiority, and was felt in the hearts of all the educated classes; by a natural impulse, they laid before him all they had to bestow, whether rewards or marks of distinction, their achievements in art or science, or the thousand trifles usually given in token of goodwill. In him all the world had some practical or ideal interest. So much so that he came to be considered as 'the last resource in intellectual matters,' as Hermann Grimm strikingly puts it in the

¹ Several examples of these are given in the closing pages of Varnhagen's correspondence.

letter in which he appeals, not in vain, shortly before Humboldt's death, for his interposition to obtain the exhibition of the forgotten cartoons of Cornelius. But numerous as are the letters containing some appeal, these are far outnumbered, strange as it may seem, by those expressive of thanks. We have seen his zeal in benevolent acts; but even when he was powerless to bring relief, he had always the wish to be of use. In promptitude in the despatch of business, and especially in the conduct of his correspondence, he had few equals. He calls to mind the punctiliousness characteristic of the reigning House of Prussia, in particular of Frederick the Great, whose habit of making marginal notes finds a counterpart in the humorous comments with which he inscribed all letters and books that came in his way. His love of order was as remarkable as his promptitude; he often boasted that since his travels in America, he had never lost a scrap of manuscript. In this respect his letters and notes, though very faulty in style, are worthy of admiration. Late into the night he would prosecute his correspondence, his replies being courteously worded, very complete, and always written in his own hand. The brevity of his letters was to be ascribed to the same cause as their defective composition, namely, the extent of his correspondence, and the rapidity with which it was conducted. With his handwriting everyone is familiar; from about 1835 he adopted, for sake of clearness, the Latin character; badly as he wrote, with no distinctiveness in the form of the letters, his writing was still not so illegible as that of his brother at the close of life, and it was only for about the last eighteen months that it degenerated into a mere scrawl. In Hildebrandt's small water-colour drawing, he is represented writing, according to his usual custom, upon his knee—a habit necessitated by the injury to his arm, brought on by 'sleeping among the damp vegetation of the Orinoco.' This accounts for the closely written lines sloping upwards towards the right, and frequently running one into the other, diminishing from below in the manner of perspective. The blank page to the left was made use of for isolated remarks, anecdotes, or jokes, written in all directions. Blots of ink were there apologised for under the designation of the 'Caspian Sea,' or the 'Sea of Aral,' and

in the letters to the Princess of Prussia such spots are carefully traced round, by way of ornament, with a trembling hand. He not unfrequently begins a letter on the fourth page of a sheet; everything betokens that his motto is despatch. Hence arose his 'cosmopolitan' letter-covers, enabling him, when in haste, to employ even workmen as his messengers. The ephemeral nature of his communications is shown, too, in the incompleteness of the dates, often consisting only of 'Tuesday,' 'Monday night,' or 'noon.' All the more touching are the efforts he made to write with great clearness and distinctness to save the weak eyes of Böckh. For the sake of his own eyes he frequently employed blue paper in his latter years, after the example of Encke.

These letters, written mostly at night, were destined to be scattered over the whole world. Who that had ever approached him could not boast of at least a few; whether letters of inquiry, thanks, congratulations, or consolation. With boundless good humour he suffered the abuse of his courteous kindness; since his return to Berlin he had become 'a general inquiry office,' not only for Germany but for Europe, and indeed for the whole world. Though groaning over it, he endured almost to the end. It was not until a few weeks before his death that the well-known 'protest' appeared in the papers:

'Suffering under the pressure of an ever-increasing correspondence, amounting in the year to between 1,600 and 2,000 communications—letters and printed matter upon subjects quite foreign to my studies, manuscripts upon which I am requested to furnish an opinion, projects for emigration and colonisation, models of machinery, natural curiosities, questions upon aeronautic navigation, solicitations to contribute to collections of autographs, even propositions for looking after me in my own house and supplying me with amusements and diversions, &c.—I venture publicly to appeal to all persons entertaining for me any good will, begging that they would arrange so far as lies in their power that I should become less often an object of interest in both hemispheres, so that my house should not be converted into an inquiry office, nor my failing powers both physical and mental be deprived of the little

quiet and leisure I can secure for work. I trust that this appeal, to which I have at length most unwillingly resorted, may not be unkindly interpreted.

‘ALEXANDER VON HUMBOLDT.

‘Berlin: March 15, 1859.’

The kind of annoyance which had at last wrung from him this sigh of oppression may best be seen in the following answers, penned to audacious querists, who nevertheless had not the interest to call again for the replies :

‘I regret that I am unable to fulfil your request, and furnish you with advice in the choice of a career in life. With my numerous occupations, and at the advanced age of eighty-six, I am quite unable to satisfy the applications for counsel that I receive every week. I must restrict myself to the duties for which I hold myself responsible. With the highest respect, I remain, &c.,

‘ALEXANDER VON HUMBOLDT.

‘Potsdam: August 15, 1856.’

‘The numerous duties incumbent upon me render it impossible to reply to so many indefinite questions. Any scientific man will tell you the lectures you ought to attend upon physics, geology, and botany, by Mitscherlich, Magnus, Gustav Rose, and Ehrenberg.

‘ALEXANDER VON HUMBOLDT.

‘Berlin: June 17, 1858.’

Humboldt’s characteristic amiability is shown even in these notes of refusal. The most striking proof however of the suavity of his manner is to be found in his letter ‘To Herr Eugen Hermann, author of the novel which was published in Leipzig and Philadelphia under the title of ‘A Son of Alexander von Humboldt, or the Maypure Indian.’ The author, who sheltered himself under a *nom de plume*, had had the audacity to send this vile product of his imagination to the venerable philosopher whom he had so grossly insulted ; the following reply was immediately published by Humboldt in the Spener’sche Zeitung of May 8, 1858 :—

‘If, as would have been more becoming towards an old man of eighty-eight who dwelt in the same town with yourself, you had ere the first volume of your novel had been published con-

sulted me if it would be agreeable to me to lend my name to the title of your work, I should then have declined what you are pleased to term in your letter of the 4th of May an intentional surprise. All that is left for me now to do is to tell you candidly that this surprise, much as there is flattering to the explorer of the Orinoco in your work, has served only to direct his attention to the indelicacy of the literary customs of Germany in the present day. I remain . . .

‘ALEXANDER VON HUMBOLDT.’¹

It was only in extreme cases that Humboldt ever resorted to publicity in affairs of a personal nature. During his latter years, however, he never omitted to publish in the papers any tidings that happened to reach him first of any missing explorer, in order to cheer the anxious relatives with the news. He mourned with peculiar grief the unhappy fate of Eduard Vogel, towards whose family he ministered consolation as long as any hopes could be entertained. As a rule he showed an aversion bordering on horror to publishing his private sentiments. The free expression of feeling which marked his correspondence led him to wish it could have been as evanescent as his conversation; his displeasure was much excited when a letter of his, in which he had expressed himself harshly of Stein, was published in ‘Die Grenzboten.’ He sought to make it binding on both relatives and friends to withhold from publication his letters or papers even after his death;² but the unlady-like conduct of one upon whom he had often showered extravagant praises,³ soon rendered every such precaution futile.

The range of Humboldt’s personal intercourse became almost as extensive in his closing years as his correspondence. Every one sought an interview with the ‘Monarch’—in the manner so graphically described by Bayard Taylor, some to demonstrate more emphatically their sympathetic interest, others to see his face once more and listen again to his lively conversation.

¹ In consequence of this defiance of literary courtesy, the anonymous author, an officer in the Prussian Guards, was compelled to quit the service.

² Hinted at in Ehrenberg’s ‘Gedächtnissrede,’ p. 48. On the subject of this ‘Request for the non-Publication of Confidential Letters,’ see Zimmermann’s ‘Humboldtbuch,’ vol. ii. p. 22.

³ Varnhagen’s unpublished reply to No. 213 in the collection.

The stranger of rank or distinction would pay his visit of ceremony; the man of science would present his latest work or request a letter of introduction; even the student, if unfortunately admitted under the plea of borrowing a book, would endeavour to entangle the venerable philosopher, who smilingly evades the subject, in a discourse on 'Immortality.'¹ Of the charm of Humboldt's conversation there is but one opinion. 'Humboldt is the only one,' remarked Dove,² 'who ever made me think it was possible to *causer* in German.' In his conversation there was a happy combination of the brilliancy of French *esprit* with the gravity of Berlin sarcasm, the point of which he generally managed to turn good-humouredly against himself; over all he uttered, whether wit or philosophy, there flowed a clear stream of gracious suavity. No one knew so well how to please, gratify, and flatter. The historian Rudolf Köpke sent to him, as a friend of Tieck, a copy of his work upon the poet. Some days after he called upon Humboldt, and through an error in the announcement of his name was greeted by the philosopher as a Frenchman, the author of a work on electricity, and overwhelmed by a volley of complimentary phrases. With some difficulty Köpke at length succeeded, during a momentary pause, in bringing in some reference to Tieck, who had once employed expressions of a similar character, for which reason he had ventured to present to his Excellency a copy of his little work upon the poet. With a sudden rejoinder of 'Ah, the dear good Tieck!' Humboldt, upon perceiving his mistake, at once passed into the new position of affairs without a moment's embarrassment, or the betrayal of the slightest surprise.

Thus visit followed visit; every one receiving his full share of personal attention, which perhaps, from its universality, might in truth be called impersonal—less than human or more than human, according to the aspect in which it is viewed. The sunshine of his good nature fell equally on the evil and the good, just as his sarcasms rained alike upon the just and the unjust. The gracious demeanour he preserved towards every one bore the stamp of Royalty, and the manner in which

¹ 'Briefwechsel mit einem jungen Freunde,' p. 80.

² H. W. Dove's 'Gedächtnissrede,' p. 10.

he, as it were, 'hovered over the mass' of individual men was somewhat akin to the manner in which his contemplative mind was accustomed to hover over the mass of individual facts. We must not however forget to call to mind, lest we lose through generalities the truth of the picture, the instances of genuine and sincere friendship which he continued to cherish till the close of life.

In 'his family,' as he invariably designated the descendants of his brother, Humboldt was called upon to witness much sorrow. The serious illness of 'poor Bülow,' whose 'release' was granted¹ on February 6, 1846, has already been alluded to. Eight years later, in March 1854, he describes to Gauss another 'sorrowful drama which has lasted two months, and enlisted the sympathy of the whole city. A grand-daughter of my brother's, of great intelligence, and in the enjoyment of every domestic bliss, has all this time been struggling in vain against an attack of suppressed measles. Her mother, the widow of the late Minister for Foreign Affairs, was spending the winter in Rome with three of her daughters, but notwithstanding the severity of the season returned to Berlin in the hope of nursing the invalid. Unfortunately she arrived only to see her daughter in her coffin, which was opened at her request. The poor mother was able to attend the funeral, which took place in the beautiful cemetery in the park at Tegel, where a granite column, surmounted by a statue of Hope by Thorwaldsen, marks the quiet resting place of the Humboldt family. The deceased has left three beautiful children as a legacy to her youthful husband, Baron Loën, aide-de-camp to the King.' Towards the close of December 1856, he announces to Carus and Varnhagen² another 'great loss,' in the death, 'after complicated suffering,' of Adelheid, eldest daughter of William von Humboldt, and wife of General von Hedemann, 'an amiable and cheerful woman, who had enjoyed uninterrupted happiness in wedded life for forty years.'—'How often,' he sadly exclaims, 'have I, the oldest of my race, trod the path to that column which, thanks to Thorwaldsen, seems to promise *hope*. I have buried all my race!' To the survivors of his family, particu-

¹ 'Briefe an Varnhagen,' No. 106; 'Briefe an Bunsen,' pp. 75, 77-79.

² 'Briefe an Varnhagen,' No. 103.

larly to Frau von Bülow, over whose melancholy fate he frequently mourned, and to General von Hedemann, he continued to the last his most sympathetic interest.

One after another was he called to mourn the loss of friends. For none did he grieve more deeply than for Arago, who died on October 2, 1853. From a Parisian source we learn how greatly prized by the invalid was Humboldt's last letter to this friend of his youth—'a letter but small in size, but so full of matter!' Like Gauss, Arago repeatedly asked for this last letter, which was frequently read to him by his niece, 'so dear were the words to his heart, so full the consolation they conveyed.' While recalling the reminiscences of their mutual intercourse the dying man exclaimed: 'We never quarrelled but once, and then it was over in a moment.' In former days he had on one occasion said to Steiner: 'My friend Humboldt has the most affectionate heart and the most slanderous tongue of any one I ever knew.' Some abatement must be made to this statement, from the curt manner in which it has been rendered by the Swiss. The most frequent cause of the momentary misunderstandings which took place between Humboldt and characters such as Arago and Buch was in fact his own gentle disposition, which ever led him to act the part of mediator. Of this they had no comprehension, as his very pliancy had fostered in them 'a despotic expression of opinion.'¹ In writing to Hittorff,² he once very characteristically expressed himself: 'I am fated to find myself very often between two friends who possess for the moment exactly opposite signs \pm .' It was then his habit, if we may continue the figure, to equalize the difference by presenting himself as a neutral quantity—a cypher. As a necessary consequence, the more pertinaciously they held to their position, the less for the moment did they place any value on his friendship.

Another friend, whom, after an acquaintance of more than fifty years, Humboldt was called to follow to the tomb, was the sculptor Rauch, a man of a grand simplicity of character, who, next to Arago and Buch, occupied a prominent position in Humboldt's regard during the closing years of his life. By him,

¹ 'Briefe an Varnhagen,' No. 150.

² De la Roquette, vol. ii. p. 249.

as we are assured by his daughter, 'the friendship of Humboldt was regarded as his choicest possession;' with no less fervency does she speak of Humboldt as 'the truest and most unselfish friend of her departed father,' as one who had ever shown the warmest interest in all his affairs, whether in art or in household matters. Not only was Humboldt unwearied in bringing distinguished foreigners to the studio of the aged sculptor, and procuring him commissions for which he vainly urged that he should ask higher remuneration, but he supplied him with books and newspapers, and was ever at pains to show him kind attentions. Rauch was accustomed to look up to him with the same child-like veneration for 'the benevolence of his generous kindness' as for the comprehensive grasp of his giant intellect. From Carlsbad he sent him descriptions of the country, in which he likens Annaberg to Perugia, but fears to weary Humboldt with these 'minute disquisitions on the picturesque, since you,' he continues in his clumsy German, 'would not endure a comparison between delightful Saatwinkel and Amalfi.' Upon another occasion he mentions with great glee that 'three miles from New York a quarry of fine white statuary marble had been found. I have seen a specimen, and a block is already on its way here: I have some hope now that something may be made of America!' Such an old and tried friend Humboldt was glad to welcome on his birthday, although the celebration of the day was to him so distasteful, that in 1850, to escape all notice of it, he took flight to Magdeburg.¹ On May 8, 1857, Rietschel sent to Humboldt from Dresden a cast of his bust of Rauch, in the belief 'that your Excellency will like to possess a characteristic likeness of your old and valued friend.'

Side by side with the great sculptor may be mentioned a young Italian artist, Madame Emma Gaggiotti-Richards, who resided for some years in Berlin during the closing period of Humboldt's life, and attracted the notice among others of the great philosopher by her talents, beauty, and amiability. He sat to her for a spirited likeness in oils, which ranks as one of the best portraits that have been taken of him. On her removal to Paris, he continued to the last to manifest his fatherly interest in her in an affectionate correspondence; her letters to

¹ 'Briefe an Bunsen,' p. 120.

him express a passionate warmth of veneration to be equalled only by that demonstrated by the Duchess von Sagan. 'My hopes are in you,' she exclaims in writing from Paris on December 3, 1858, 'from whom I derive every earthly good. There is nothing left but to *entreat* you for one line, for which my heart longs ardently.' On January 9, 1859, she writes:— 'I am working hard, and have commissions; but I lack the *inexpressible happiness* of seeing you enter my studio, overwhelming me with honour by your presence, and encouraging me by the sweet consolation of your generous praise to attempt everything. Your own Emma.' This beautiful affection shines like the pure but trembling rays of an evening star upon the last weary steps of the lonely traveller.

Lonely? Before we apply such a term, let us take a last look into the domestic arrangements of his home. There remains, in fact, yet to describe the most remarkable of all the relationships formed by Humboldt during his long life; we allude to that of his attendant Seifert and his family. The confidential servant, the trusted and valued household steward so graphically described in Bayard Taylor's lively narrative, is in itself a phenomenon of such ordinary occurrence, that it has long served as a type on the stage. No wonder therefore that Seifert, by years of faithful service, numbering as many as thirty-three—entered upon prior to the Asiatic expedition—should have acquired at length a position of great importance in the household of Humboldt; it is only natural that he should have relied upon the gratitude of the man who was possessed of the most unfailing of memories. In years long past, Humboldt's letters to his friends had once been full of the heavy anxiety occasioned him by the illness of 'his great Siberian huntsman;' he added, in commendation of Seifert, that in the summer excursions to Paretz or Erdmannsdorf, he always considered a volume or two of Schiller an indispensable accompaniment. The interest felt in Seifert was even extended to his daughter; upon the margin of a letter upon very different subjects he has noted carefully:— 'To-day Frau Möllhausen's first boy christened.' Humboldt's relationship to Seifert, however, gradually assumed, on account of the uncertain form in which he received his wages, a character by no

means pleasing to the historian, though admitting of easy explanation. We have already seen that Humboldt's pecuniary circumstances were in a precarious condition on his first arrival at Berlin. He was wholly dependent upon the royal pension of 5,000 thalers, and this sum at no time proved adequate to meet his expenditure. The rent of his house soon rose from 550 to 750 thalers; the carriage needed for his duties at court cost 60 thalers per month, and the expenses of postage amounted at least to half that sum. To this was to be added the cost of living and other expenses, including numerous charities, examples of which came before us in his letters to Eisenstein. Suffice it to say, by the 10th of every month his funds were exhausted. Debts were the inevitable consequence; even the money he received for 'Cosmos' was but a drop in the ocean; the sums realised by the sale of some of his presentation books could bring no perceptible alleviation. The only resource left was to solicit from the king from time to time extra tokens of his bounty. We have seen with how much kindness and consideration these requests were met by Frederick William IV.; it is quite unnecessary to enumerate the individual sums paid to him through Mendelssohn. By order also of the Regent, after Humboldt's death the sum of 1,300 thalers was paid to the same house in discharge of his debts. Seifert was, as may be supposed, well acquainted with his master's necessities, and at times of great pressure, especially during the Asiatic expedition, he forbore to receive his wages, amounting to 25 thalers monthly. Even when these crises had passed away, Humboldt felt, in view of the faithful service rendered him by Seifert and his inconsiderable remuneration, that he was still in his debt, and sought to find means of tendering him or his family some assistance. As we have seen, he procured for him from the king the post of castellan at one of the royal hunting-seats; for his son-in-law Mollhausen he obtained an appointment in the royal private library at Potsdam. Of the many personal efforts made by Humboldt for the benefit of Seifert, we shall for brevity's sake only allude to the publication, in 1858, of a chromo-lithograph of Hildebrandt's water-colour drawing of his library. He drew up in French the circular to be forwarded by Seifert to all illus-

trious princes and distinguished friends and admirers of Humboldt,' and supported besides the suggestive appeal on the part of his servant by private letters to many of his friends. Thus Prince Demidoff wrote:—'Although already possessing an impression of this beautiful print, I have had great pleasure in ordering another copy, in order to do a service to your old and faithful servant.'

The following documents will furnish the best account of the further history of this peculiar relationship, and we introduce them without comment. The first is a petition from Humboldt to Frederick William IV., drawn up in 1853.¹

'To his most gracious Majesty the King.

'Sire,—In these lines, the first I have penned to you since my near approach to death, I venture most humbly to solicit a last favour from your Majesty. Since the ruin of my fortune in scientific undertakings and the publication of a costly work, I have unceasingly endeavoured, in much anxiety, to discharge the heavy obligations under which I laboured when summoned to Berlin by his late Majesty. In the unfortunate year 1848 alone I was called upon to pay 11,000 thalers, the greater part of which was demanded by commercial transactions. Notwithstanding my industrious employment of the hours of night, it is very uncertain whether I shall be able before I die to discharge the debt owing to the banking-house of Mendelssohn, to whose kind forbearance I have been indebted for the last seventy years. In order to free myself from the tormenting anxiety that the small sum I have destined in my will for my faithful servant Seifert, who accompanied me on my Asiatic expedition, and who, through the favour of your Majesty, has been appointed to the post of castellan, should be entirely swallowed up, I throw myself in this solemn hour with every confidence at the feet of your Majesty, with the request that at my death you will come to the help of one who has so often pleaded for others, and by a royal gift to an old man who has been so long devoted to you, annihilate the debt still due to the house of Mendelssohn, which I hope will not exceed one year's income. The mere expression of my wish has brought me consolation. For one who has for so many years enjoyed the privilege of

¹ For a copy of which we are indebted to Fräulein A. Seifert.

intimate companionship with your Majesty and with your noble-minded and generous Consort, the Queen, there is no need to fear in taking so bold a step.

• With every expression of grateful and respectful homage,

‘ I remain your Majesty’s

‘ Faithful and devoted Servant,

‘ ALEXANDER VON HUMBOLDT.

‘ Berlin: Sept. 25, 1853.’ (During the visitation of the cholera.)

It appears that it was not till after the stroke of apoplexy by which Humboldt was attacked towards the close of February 1857, that he made up his mind to despatch the foregoing communication to the king. Frederick William replied by the following order in council:¹—

‘ I am extremely gratified to learn that you have recovered so speedily and so completely from your apparently serious illness as to enable me to indulge the hope of again enjoying the pleasure of your intellectual society, now become to me almost indispensable; but I am grieved to perceive from your letter of the 18th inst., that your mind has been burdened with anxiety lest the provision you have made in your will for your faithful servant might be rendered unavailing through the claims brought forward by creditors. As, in order to relieve you from this anxiety, it suffices for me to give you the assurance that when you are called—I hope at a very distant day—to quit this life, I shall view it as a part of your testament to undertake the arrangement of your affairs, I am glad to avail myself of this opportunity of giving you a fresh proof of my sincere sympathy and attachment.

(Signed) ‘ FREDERICK WILLIAM.

‘ Berlin: March 21, 1857.’

Of the contents of Humboldt’s will, which was legally drawn up on May 10, 1841, and supplemented by a codicil dated September 20, 1853, stating that ‘it would be quite unnecessary that anything should be sealed after his death, as everything in the house was left to his servant and his family,’ we learn

¹ A summary of these documents appeared in Zimmermann’s ‘Humboldt-buch,’ vol. iii. p. 73, &c.; and more in detail in the ‘Publicist,’ 1859, No. 25, Supplement.

additional particulars from the following important letter addressed to Seifert on March 13, 1855:¹—

‘My dear Seifert,—In order to shield you from any aspersions that might possibly be cast upon your well-proved honesty and trustworthiness, I wish to certify by this letter (since by the Providence of God, at my advanced age, I may be suddenly removed by death) that I have given during my life and of my free will, to you and your heirs, in acknowledgment of your valuable services, the sum of 2,688 thalers—being the value of the decoration of the order of the Red Eagle in brilliants, which was with great liberality paid to me at my request in February 1855 by the Comptroller of the Royal Household. I herewith repeat the statement made in my will of May 10, 1841, deposited in the Criminal Court, that I make over to you, and after your death to your heirs, all the goods that are in my house; gold medals, chronometers and clocks, books, maps, pictures, engravings, sculpture, instruments, sable furs, linen, the small amount of plate, beds, and the whole furniture, under the condition, to me of a painful character, that should his Majesty the King, who now overwhelms me with favours, not be able to fulfil my request for a gift of a few thousand thalers for the liquidation of my debt to the house of Al. Mendelssohn, from whom I have been in the habit of receiving accommodation for the last fifty years, you will endeavour to meet my liabilities by the sale of the ‘Chalcography,’ which must be worth more than 2,500 thalers. This I have no doubt you will be willing to do from your feelings of honour and respect to my memory. I may yet be fortunate enough, during the brief period of life still left to me, to annihilate my debts by the results of my nocturnal labours. In all delicate questions of this nature you will find a wise counsellor in my dear relative General von Hedemann, who for half a century has invariably displayed towards me the most tender affection and true nobility of character.

‘A. VON HUMBOLDT.

‘Berlin: March 13, 1855.

‘To my servant, Herr Castellan Seifert, Berlin.’

¹ This letter was published in January 1860 in the Berlin ‘Fremdenblatt.’

Finally, on November 25, 1858, a legal document was drawn up by Humboldt, in which, by deed of gift, he made over the whole of his possessions to Seifert, only reserving to himself the use of everything until his death, with the express arrangement that he should hold the goods thus made over only in the name of Seifert. From reverential feelings, the following articles were excepted in the deed of gift:—the royal orders in council, the portrait of Frederick William IV. by Krüger, a large vase, with views of Sanssouci and Charlottenburg, the freedoms of the cities of Berlin and Potsdam, the Copley medal, his notebooks, and the portfolios containing material collected for ‘Cosmos.’

We certainly do not feel called upon to pass any judgment upon the manner in which Humboldt disposed of the remnant of his days; we have only touched upon this disagreeable subject in order to show the reader, by incontrovertible documents, the nature of the relationship in which Humboldt stood to his attendant and his family during the closing ten years of his life. Upon Humboldt's side there is undoubtedly the kind expression of a patriarchal feeling: would that there had been an appearance of less interested motives on the other! In proof of the former, we have but to adduce a letter addressed by Humboldt to General Hedemann, requesting that a piece of ground near Kunth's resting-place in the park at Tegel might be apportioned for the use of Seifert and his family; while in proof of the latter, there is only too much implied in the following note, written by Humboldt to the wife of his servant, on April 5, 1859, about a month before his death: ‘—My dear and very attentive Frau Seifert,—I am sorry I can only offer you so small a gift in acknowledgment of the extreme care with which, amid failing health, you have never ceased to attend on me. I hope soon to be able to offer you 500 thalers, which I shall have earned by renewed exertions. With feelings of grateful attachment and sincere esteem, yours, &c., A. HUMBOLDT.’ In answer to the complaints that were every now and then brought to Humboldt of the caprice evinced by Seifert in admitting visitors, he was accustomed to remark, with a sigh, upon the ‘tyranny’ under which he was held, but invariably

¹ Communicated by the Seifert family.

added a request that 'the peace of the household might not be disturbed.' Of this state of dependency we scarcely feel disposed to complain, since it arose almost unavoidably from his easy good nature, and the helplessness of age by which he was far removed from the influence of friends; but that, by the noble weakness of a grateful heart, he should have been led so far as, of his own free will, to make a deed of gift to his servant of all his possessions, and occupy the position of a penniless labourer in his own household, is a fact almost unexampled in history, which cannot fail to awaken the keenest sympathy.

With these people had Humboldt for thirty years shared his domestic life, yet in the highest sense of the word might he not be truly called lonely? From the house where he had entertained Gauss 'he had been driven,' as he facetiously remarked,¹ by King Frederick William IV., in 1841, upon the erection of the new Museum. For about a year he lived 'behind the Werder Church,' but, finding the situation too noisy, he removed, in 1842, to the first floor of the small house in Oranienburg-strasse, No. 67, where he died. This situation 'in the healthy neighbourhood of the Siberian quarter of the city' suited him well. Through the considerate kindness of the Mendelssohn family, with whom Humboldt was ever on terms of friendly intimacy, being a weekly guest at their table, the house was purchased by them in 1844, not only to prevent him again suffering from the rent being raised, but also to secure him from another remove, of the 'horrors' of which he had experienced more than his due share during the frequent migrations of the court. Of the interior of his abode little need be added to the description of Taylor. While strangers approached by the front steps, intimates found their way across the courtyard through Seifert's apartments. Through the small museum of natural curiosities and the library, the visitor was ushered either into the simple drawing-room facing the street, or into the study, still plainer in appearance, at the back of the house. In addition to the map of the world, by Berghaus, and the likeness of Columbus, represented in Hildebrandt's sketch, there hung, of late years, two portraits by Madame Gaggiotti, one of herself and the other of Eduard Hildebrandt.

¹ 'Briefwechsel mit Berghaus,' vol. iii. p. 335.

Of other works of art there was a portrait of Frederick William IV., by Krüger, a marble bust of Humboldt, by David d'Angers, and the remarkable bust of Heinrich, the navigator, in the library, the gift of Louis-Philippe. Among the costly works on the library table lay another present from that monarch, the 'Chalcographie du Musée royal.' The library was not in itself as valuable as might have been supposed,¹ as Humboldt only commenced its formation on his residence at Berlin. He seldom bought books, and always very unwillingly; he would frequently give them away, some he parted with, presentation copies often remained incomplete. The collection acquired an individual interest from the inscriptions of the donors, and still more by the piquant marginal notes which Humboldt was in the habit of making, especially to his own works, a complete copy of which, however, he did not possess. On the failure of the negotiations for the purchase of the library entered into with the heirs, in the name of the Prince Regent,² the books became the prey of a bookseller's speculation, and were taken to England, where the greater part perished in a conflagration.

Humboldt invariably received his visitors in the 'cosmopolitan' frock coat, a deep white neckerchief supporting his sinking head. Latterly, he rarely went on foot, but his courtly habit of standing he preserved almost to the end. 'Tropical' heat was with him a necessity, and his room was never allowed to be lower than 77°. From early years he had been accustomed, after the habit in southern latitudes, to add a great portion of the night into the day, for 'when the disturbing influences of the enemy had been laid to sleep,' he found it the most convenient season for his home work: towards morning he took a few hours' repose. He eat heartily, and took wine freely, but never exceeded moderation. The lower portion of his face was strongly marked, and almost unpleasing, but received, even amid the sallowness of age, a winning expression from his smile of roguish good nature, and the cheerful glance of his small eyes, above which arose his noble, intellectual brow, crowned with a profusion of white hair. His well-made figure of mode-

¹ See J. Löwenberg's 'Die Bibliothek A. von Humboldt's,' published in the 'Salon,' 1860, vol. iv. part xi.

² From letters from the Seiferts to Dr. Henry Lange.

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civilisation, grouped with Isis, Aphrodite, and Roma in the attitude of reading a book inscribed 'Cosmos.' No one would dream of interpreting Grimm's expression to allude to William von Humboldt, although his imaginative productions would bring him apparently much nearer to the great founder of German literature: it is a remarkable fact that the fame of the younger brother—little as he would have desired it—has so far eclipsed that of his elder brother that wherever the name of Humboldt stands alone Alexander is always meant. By men of science—at least those of a mental calibre equal to Grimm or Kaulbach—Humboldt would never have been placed side by side with the greatest poet of the last century, one of the most comprehensive geniuses that has ever lived, nor would his great work 'Cosmos' have been chosen as an emblem of the ceaseless progress of modern investigation. The achievements for which science is indebted to Humboldt are of a character to be easily enumerated. However exaggerated may be the modesty that led him in a moment of depression to assert:¹ 'I know that in the realm of science I shall leave behind me but a faint track,' it is yet true that the track he has left in the world of thought of his century is neither so deep nor so marked as to permit his name to be applied to the whole or even a part of this high road of progress. Nor do we find a sufficient cause for the splendour of his name in the countless services he rendered to science by the powerful influence he was able to exert in inciting others to labour. It is to be expected that a just estimate of the value of his achievements, now confined to the student of individual branches of science, will in a future age become universal.

In the world of knowledge, however, 'the intellectual world proper,' as Humboldt used to term it, there are various degrees of fame; for, as in the philosophy of Spinoza, in which the unity of Nature is pre-eminently maintained, Nature is yet divided into two separate conditions—active and passive—so in the phenomena of mental endowments we discover that genius divides itself into active and passive. The former, by its creative activity, is directed to the attainment of new ideas; the latter, by assimilating in its comprehensive grasp the knowledge

¹ H. W. Dove's 'Gedächtnissrede,' p. 13.

intimate companionship with your Majesty and with your noble-minded and generous Consort, the Queen, there is no need to fear in taking so bold a step.

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‘ALEXANDER VON HUMBOLDT.

• Berlin: Sept. 25, 1853.’ (During the visitation of the cholera.)

It appears that it was not till after the stroke of apoplexy by which Humboldt was attacked towards the close of February 1857, that he made up his mind to despatch the foregoing communication to the king. Frederick William replied by the following order in council:¹—

‘I am extremely gratified to learn that you have recovered so speedily and so completely from your apparently serious illness as to enable me to indulge the hope of again enjoying the pleasure of your intellectual society, now become to me almost indispensable; but I am grieved to perceive from your letter of the 18th inst., that your mind has been burdened with anxiety lest the provision you have made in your will for your faithful servant might be rendered unavailing through the claims brought forward by creditors. As, in order to relieve you from this anxiety, it suffices for me to give you the assurance that when you are called—I hope at a very distant day—to quit this life, I shall view it as a part of your testament to undertake the arrangement of your affairs, I am glad to avail myself of this opportunity of giving you a fresh proof of my sincere sympathy and attachment.

(Signed)

‘FREDERICK WILLIAM.

• Berlin: March 21, 1857.’

Of the contents of Humboldt’s will, which was legally drawn up on May 10, 1841, and supplemented by a codicil dated September 20, 1853, stating that ‘it would be quite unnecessary that anything should be sealed after his death, as everything in the house was left to his servant and his family,’ we learn

¹ A summary of these documents appeared in Zimmermann’s ‘Humboldt-buch,’ vol. iii. p. 73, &c.; and more in detail in the ‘Publicist,’ 1859, No. 25, Supplement.

all who were no longer in his presence. It must be admitted, however, that as soon as the humour was over, and the exciting cause had died away, he at once resumed the calm and cheerful view of things by which he was usually distinguished.

Nor was there in Alexander von Humboldt any perceptible development of moral culture; the same qualities, noble as well as mean, are alike noticeable throughout the whole of his 'eventful life.' An untiring industry and a restless vanity, which was only thrown into greater prominence by an assumption of humility, a good-natured readiness to oblige, a retiring shyness, a frank openness and insincere smoothness of speech, true affection, and flattering irony—these qualities were equally noticeable in all periods of his life. Such was the man, and such he ever remained; it is our province to describe, not to judge. For the task appointed him in life he was, no doubt, admirably fitted; the bold and decisive points of a manly character would have been inappropriate in the universal representative of modern culture; as a lens intended for the condensation of rays must be smoothly ground, so his complex nature must be reduced to a smooth surface. What he lost in individuality, he gained in representative power. In the sense perhaps in which the Homeric age is spoken of, may the future historian of the development of science speak of the present century as that of Alexander von Humboldt.

Finally, on November 25, 1858, a legal document was drawn up by Humboldt, in which, by deed of gift, he made over the whole of his possessions to Seifert, only reserving to himself the use of everything until his death, with the express arrangement that he should hold the goods thus made over only in the name of Seifert. From reverential feelings, the following articles were excepted in the deed of gift:—the royal orders in council, the portrait of Frederick William IV. by Krüger, a large vase, with views of Sanssouci and Charlottenburg, the freedoms of the cities of Berlin and Potsdam, the Copley medal, his notebooks, and the portfolios containing material collected for ‘Cosmos.’

We certainly do not feel called upon to pass any judgment upon the manner in which Humboldt disposed of the remnant of his days; we have only touched upon this disagreeable subject in order to show the reader, by incontrovertible documents, the nature of the relationship in which Humboldt stood to his attendant and his family during the closing ten years of his life. Upon Humboldt's side there is undoubtedly the kind expression of a patriarchal feeling: would that there had been an appearance of less interested motives on the other! In proof of the former, we have but to adduce a letter addressed by Humboldt to General Hedemann, requesting that a piece of ground near Kunth's resting-place in the park at Tegel might be apportioned for the use of Seifert and his family; while in proof of the latter, there is only too much implied in the following note, written by Humboldt to the wife of his servant, on April 5, 1859, about a month before his death: ‘—My dear and very attentive Frau Seifert,—I am sorry I can only offer you so small a gift in acknowledgment of the extreme care with which, amid failing health, you have never ceased to attend on me. I hope soon to be able to offer you 500 thalers, which I shall have earned by renewed exertions. With feelings of grateful attachment and sincere esteem, yours, &c., A. HUMBOLDT.’ In answer to the complaints that were every now and then brought to Humboldt of the caprice evinced by Seifert in admitting visitors, he was accustomed to remark, with a sigh, upon the ‘tyranny’ under which he was held, but invariably

¹ Communicated by the Seifert family.

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1. The first part of the document is a list of names and addresses of the members of the committee.

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